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Gregory T. Schildwachter

The University of Montana

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Voluntary Agreements
to Conserve Endangered Species on Private Land:
Accommodating Local Interests with Trusting Relationships

by

Gregory T. M. Schildwachter

B.S.F.R. The University of Georgia, 1989
M.S. The University of Tennessee, 1994

presented in partial fulfillment of the requirements
for the degree of
Doctor of Philosophy

The University of Montana

1997

Approved by:

Chairperson

Dean, Graduate School

Date
Conservation in America is practiced largely by state and federal government. This governmental strategy began in the Progressive Era of the late 19th and early 20th centuries. As the 20th century progressed, local people and conservationists began experimenting with voluntary agreements such as hunting leases and conservation easements. This form of conservation, based on voluntary agreement, gives local people a way to bargain with public conservationists. My study proposes that local people always find a way to advance their interests by such bargaining. Furthermore, if bargaining is to lead to agreement, the bargainers must have a trusting relationship. I call this bargaining conservation strategy, Market Conservation. My study was made possible by the Boone and Crockett Club. As the Club's founders, especially Theodore Roosevelt, led the United States into the Progressive Era and the governmental model of conservation, so the current members have set out to lead the way toward a second model. The Boone and Crockett Wildlife Conservation Program at the University of Montana connects wildlife biology with other specialties to make interdisciplinary studies of conservation possible.

I used history, property-rights analysis, and ethnography to build a "thick description" of voluntary agreements in conservation. Thick description associates meanings, usually gathered from personal interviews, with events. By taking three views — through history, property-rights analysis, and ethnography — I "triangulated" on the subject of interest according to guidelines found in the literature on qualitative analysis.

In arranging voluntary agreements, people try to: (1) protect immeasurable values by protecting or managing surrogate values that are inexpensive to measure; (2) share the risk of ecosystem dynamics that can destroy conservation values; and, (3) negotiate a balance between local and national interests in land and wildlife. I defined 9 types of agreement.

The combination of individual agreements and community-wide acceptance of conservation makes a local arrangement for conservation of endangered species. These local arrangements are struggling to form within constraints imposed by the formal arrangements codified in laws such as the Endangered Species Act. This presents the policy challenge of allowing local people to experiment with local arrangements while still protecting the national interest in endangered species conservation.
Preface

The professional audience addressed by most wildlife science dissertations is not expert on the topic of voluntary agreements because they are not the people "doing" them. Therefore, I have opted not to write in the usual style of a professional dissertation. This paper is not organized in sections of Introduction, Methods, Results, and Discussion, and neither is it sanitized of personal views and details. Yet I kept the purpose of writing a functional paper. The inclusive style and personality serve the purposes of (1) making these ideas accessible to the widest audience; and (2) including suppositions of what the data may mean, which is necessary in theory building.

There were many moments in this study of doubt and breakthrough. Einstein said the alternations of confidence and misgivings are known only to those who have experienced them. Only I know what it was like, but I could not have done it without help. In every step of progress I wondered how I jumped that last cold wall. Beveridge (1957), writing about the art of science, calls it magic. I attribute it to Hal Salwasser, Dan Pletscher, Mike Mattison, and Charlene Schildwachter -- who pushed me when I got stuck to put my thoughts into words or pictures. Other breakthroughs, though, seemed to come from nowhere. I think the prayers and good intentions of those who supported me in this project created a forward momentum that eventually overpowered the obstacles. I thank these supporters, knowing the only possible repayment is to pass on the same encouragement to others. I consider this a work in progress, the guts of a book, and though I did my best to polish it in the time allowed, I claim all its shortcomings.

Other people made this work both possible and fun. I thank the members of the Boone and Crockett Club for their vision and commitment to conservation in funding and supporting the Wildlife Conservation Program. I thank my committee members for their contributions: Terry Anderson, for his enlightening skill of critical analysis and for funding my first paper on voluntary agreements; Jon Driessen, for teaching me the skills of a naturalist that were left out of my natural science curriculum; Jim Burchfield, for invigorating discussions about innovations and the sociology of forestry; Bob Knight, for his sharp interest in getting things done, a constant reminder that this project must be practical. Also, I thank Jim Riley of Intermountain Forest Industry Association for giving me time to finish this project as I began working for him.
# Table of Contents

Chapter/Heading | Page
---|---
LIST OF TABLES | vii
LIST OF FIGURES | viii

## CHAPTER ONE: ACCOMMODATING LOCAL INTERESTS

**PURPOSE** | 2
**HYPOTHESIS AND IMPLICATION** | 3
**METHODS** | 3
**CAPSULE OF FINDINGS** | 7
**CONCLUSION** | 9

## CHAPTER TWO: MARKET CONSERVATION BRINGS LOCAL INTEREST BACK TO CONSERVATION

**COMPETITION FOR THE COMMONS: 1600S – 1930S** | 11
**GOVERNMENTAL CONSERVATION: 1930S – 1970S** | 14
**THE BEGINNINGS OF MARKET CONSERVATION: 1950S – 1960S** | 15
**ENDANGERED SPECIES ACT AND LIMITS OF GOVERNMENTAL CONSERVATION: 1970S – PRESENT** | 16
**ESA AMENDMENTS OF 1982 OPEN THE DOOR FOR LOCAL INTERESTS: 1980S – PRESENT** | 18
**CITIZEN MANAGEMENT: 1990S – PRESENT** | 19
**CONCLUSION** | 19
### CHAPTER THREE: ACCOMMODATING INTERESTS WITH TRUSTING RELATIONSHIPS

- Reaching Agreement Means Accommodating Others' Interests ............................................. 22
- To Reach Agreement Requires Trusting Relationships ......................................................... 23
- How I Reached These Conclusions ....................................................................................... 24
- Reaching Agreement .............................................................................................................. 31
- Conclusion .............................................................................................................................. 44

### CHAPTER FOUR: TYPES OF AGREEMENTS AND THEIR ECONOMIC DETAILS

- Types of Agreements .............................................................................................................. 48
- Factors in the Typology ........................................................................................................... 57
- Economic Details of Agreement ........................................................................................... 60
- Registry ................................................................................................................................... 62
- Reward and Compensation .................................................................................................... 62
- Lease ....................................................................................................................................... 63
- Cost-Share .............................................................................................................................. 67
- Easement ................................................................................................................................. 68
- Franchise ................................................................................................................................. 69
- Private Management .............................................................................................................. 70
- Exemption ............................................................................................................................... 71
- Working Together and Voluntary Compliance: The Miscellany ........................................... 73
- Conclusion .............................................................................................................................. 74
CHAPTER FIVE: CONSERVATION REDEFINED: NEGOTIATING INTERESTS, REDUCING WASTE, AND SUSTAINING DESIRABLE CONDITIONS .................................................................................................................................................. 75

CONSERVATION REDEFINED ........................................................................................................................................ 75

TYPES OF NEGOTIATIONS ............................................................................................................................................. 76

THE CONSERVATION PYRAMID ....................................................................................................................................... 78

MAKING IT HAPPEN ........................................................................................................................................................ 78

THE CONSERVATION MAP ................................................................................................................................................ 82

THE LAST WORD .................................................................................................................................................................. 82

LITERATURE CITED ............................................................................................................................................................ 84
# List of Tables

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>List of cases studied. (A.) Types of information. (B.) Names and anecdotes of cases</td>
<td>25</td>
</tr>
<tr>
<td>2</td>
<td>Main types of agreements</td>
<td>49</td>
</tr>
<tr>
<td>3</td>
<td>Ownership categories defined by levels of ownership rights</td>
<td>59</td>
</tr>
<tr>
<td>4</td>
<td>Example schematic of ownership, the case of a Registry Agreement</td>
<td>61</td>
</tr>
<tr>
<td>5</td>
<td>A Registry Agreement, The Nature Conservancy</td>
<td>62</td>
</tr>
<tr>
<td>6</td>
<td>Reward and Compensation Agreements, the case of Defenders of Wildlife</td>
<td>63</td>
</tr>
<tr>
<td>7</td>
<td>A Lease, Crawford and Bourland Consulting</td>
<td>64</td>
</tr>
<tr>
<td>8</td>
<td>A Lease, Texas Parks and Wildlife</td>
<td>64</td>
</tr>
<tr>
<td>9</td>
<td>A Lease, Delta Waterfowl Foundation</td>
<td>65</td>
</tr>
<tr>
<td>10</td>
<td>A Lease, Conservation Reserve Program</td>
<td>66</td>
</tr>
<tr>
<td>11</td>
<td>A Lease, Oregon Water Trust</td>
<td>66</td>
</tr>
<tr>
<td>12</td>
<td>A Lease, Environmental Defense Fund</td>
<td>66</td>
</tr>
<tr>
<td>13</td>
<td>A Cost-Share, Partners for Wildlife</td>
<td>67</td>
</tr>
<tr>
<td>14</td>
<td>An Easement, The Nature Conservancy</td>
<td>68</td>
</tr>
<tr>
<td>15</td>
<td>A Franchise, Colorado Division of Wildlife</td>
<td>69</td>
</tr>
<tr>
<td>16</td>
<td>Private Management</td>
<td>70</td>
</tr>
<tr>
<td>17</td>
<td>An Exemption, Red Wolf Recovery Program</td>
<td>71</td>
</tr>
<tr>
<td>18</td>
<td>An Exemption, U. S. Fish and Wildlife Service Memoranda</td>
<td>72</td>
</tr>
<tr>
<td>19</td>
<td>Working Together: the miscellaneous</td>
<td>73</td>
</tr>
</tbody>
</table>
# List of Figures

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Schematic map of intellectual disciplines and interdisciplinary thought pertinent to improving endangered species recovery</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Fundamental chronology leading to voluntary agreements</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>Pyramid models: (A) The biotic view of land; (B) The social view of agreement</td>
<td>46</td>
</tr>
<tr>
<td>4</td>
<td>Forms of negotiation of interests in resources</td>
<td>77</td>
</tr>
<tr>
<td>5</td>
<td>A conservation pyramid</td>
<td>79</td>
</tr>
</tbody>
</table>
Chapter One
Accommodating Local Interests

PURPOSE

HYPOTHESIS AND IMPLICATION

METHODS

JUSTIFYING A NATURALIST'S APPROACH
A SEARCH, NOT A SAMPLE

CAPSULE OF FINDINGS

GOVERNMENTAL CONSERVATION: ANALYSIS, PLANNING, AND CENTRALIZED POWER
IN CONSERVATION, PEOPLE NEGOTIATE LOCAL AND NATIONAL INTERESTS
LOCAL CONSERVATIONISTS RELY ON TRUST AND RELATIONSHIP
MARKET CONSERVATION RESULTS IN AT LEAST 9 TYPES OF AGREEMENT
COSTS CONSTRAIN VOLUNTARY AGREEMENTS
VOLUNTARY AGREEMENTS NEED A FORUM

CONCLUSION

In the Summer of 1992, I was half-way through a study of red-wolf reintroduction in eastern Tennessee, and I read a newspaper article entitled "Wolves in the Marketplace." The article described how Hank Fischer of Defenders of Wildlife was paying ranchers in Montana $5,000 when gray wolves denned successfully on their ranch. In Tennessee, I was thinking about how landowners surrounding Great Smoky Mountains National Park could be persuaded to tolerate the red wolves that the U.S. Fish and Wildlife Service was releasing there and that would certainly range beyond the park's boundaries. At the same time, my advisor at the University of Tennessee, Mike Pelton, was helping a group of landowners, timber companies, public agencies, private conservation and environmental groups, and other scientists form the Black Bear Conservation Committee. This committee intended to restore the Louisiana black bear, which was likely to become an officially endangered species.

Sensing an explanation that ties together this group of happenings, I began studying these voluntary agreements. The Red Wolf Recovery Program was a new type of endangered species work done by the U.S. Fish and Wildlife Service: the Service accommodated concerns of local people about restrictions placed in their community to protect the red wolf. The Service was
able to relax some restrictions through special rules that made the red wolves "nonessential" and "experimental." Defenders of Wildlife also was accommodating local concerns about an endangered wolf, but in a different way. Defenders was in a market, but no one was claiming ownership of the wolves. The Black Bear Conservation Committee was addressing local concerns by visiting landowners and explaining their restoration plan. Some of those visits to landowners with concerns about bears ended up with the landowner donating money to the Committee.

Voluntary agreements are evidence of a departure in conservation from the dominant role of state and federal government agencies. The label, "Governmental Conservation" describes the publicly administered bureaucracy that governs most conservation work. "Market Conservation" describes the growing practice of conservation by local people bargaining and reaching agreement among themselves and with public agents about how projects will be done.

Purpose

My purpose is to describe the development of Market Conservation and suggest how conservationists and landowners can experiment with it by seeking voluntary agreements with each other. I do this by stating my hypothesis for why Defenders of Wildlife is paying ranchers and why the Black Bear Conservation Committee wrote the recovery plan for a threatened species. This tentative explanation is, in short, that local people will always find a way to influence conservation decisions with their view of the costs and benefits of those decisions. The history of conservation shows how people asserted their interests and then how the building of Governmental Conservation constrained local interests on behalf of the national interest (Chapter 2). In the rest of the paper, I support my hypothesis with 48 case studies showing how conservationists and landowners have reached agreements. Chapter 3 reports the skills and steps they go through to reach agreement. Chapter 4 reports the economic details of their agreements. In Chapter 5, I argue that conservation overall will improve if policy embraces my specific recommendations to create forums and favorable conditions for landowners and conservationists to reach voluntary agreements. Throughout the paper, I illustrate constraints on reaching agreement imposed by the current policies of Governmental Conservation.
Hypothesis and Implication

If local people are excluded from or relegated in conservation decisions, they will find a way to advance their interests by bargaining. Bargaining leads to agreement if the bargainers have a trusting relationship. The policies composing Governmental Conservation ignore values people have for natural resources (economic, social, and cultural) and usurp local rights (legal and de facto). People are finding ways to bargain for these values in whatever legal or de facto ways they can find or create. This bargaining is Market Conservation. When landowners and conservationists can develop trust and relationship, they reach agreement (see Chapter 3). Their agreement will match one of at least 9 types (see chapter 4). Whether the agreement manifests in a legal document – a contract – depends on transaction costs, culture, laws, and other constraints (see chapter 4).

When local interests are recognized and included and when the conservationists develop trust and relationship with local people, people are more comfortable with decisions. Whether Market Conservation produces acceptable progress in sustaining or restoring resources is yet to be seen. (I believe, by definition, a voluntary agreement produces acceptable results, but some people will accept nothing short of their own personal preference for the condition of resources.)

My hypothesis implies that the tension in conservation issues arises from local people struggling to find a place to represent their interest and non-local people concerned that their interests will be given away. We can probably ease this tension if we create a forum where people can negotiate local and national interests. Where an issue pertains mainly to private land, the best forum likely is the personal relationship between a field conservationist and a private landowner. Where the issue pertains mainly to a wildlife species or a tract of public land, the best forum likely is the relationship among members of a collaborative group. I will suggest ways both these fora can be created and encouraged.

Methods

To develop my hypothesis and test it against instances of voluntary agreements, I took a naturalist’s approach. I found and recorded factually and realistically the circumstances of agreement in everyday life. I did not try to isolate parts of everyday life, as a scientist instinctively would, because I wanted to draw practical observations that could be applied by practicing conservationists. To isolate an economic, social, or ecological part of agreement would
have given conservationists some conclusion that was useful only in isolated cases. On the other hand, I used methods from each of these disciplines so I had a thorough view of everyday life (Fig. 1).

To combine economic, sociological, and ecological data in a study is called triangulation (Denzin 1970). The term was adapted metaphorically from navigation and surveying. Denzin's (1970:xii) definition is "the combination of measurement strategies ... for resolving the inherent biases of one measurement technique" or, simply, the use of "multiple methods of observation" (Denzin 1970:26). I felt it is important to know what voluntary agreements look like economically, but having a contract in hand leaves the conservationist to figure out how to contact a landowner, and overcome the suspicion that the landowner probably has, and get on track to negotiating an agreement. Likewise, knowing the sociological part of the problem leaves out the contract. "Sociological reality is such that no single method, theory, or observer can ever capture all that is relevant and important" (Denzin 1970:xii).

Very little systematically collected ecological data are available to describe the ecological results of voluntary agreements. I gathered historical information from secondary sources and analyzed them using "A Guide for Critical Thinking about Natural Resource Case Studies" (Salwasser 1994). The economic and sociological data I collected were interviews and documents. Contracts, brochures, and other documents allowed me to describe the economic elements of agreements through property-rights analysis. Interviews provided the stories that allowed me to describe the meanings behind these artifacts as expressed by the people who use them. I analyzed the stories with ethnographic methods. I describe these methods in detail as they come up in the following chapters.

**Justifying A Naturalist's Approach**

I used no statistical inference, but relied on observation and induction, which draws on the roots of wildlife science. Darwin, for example, observed and induced.

Naturalistic approaches may lead to discovery of statistically valid associations, but until we have a preliminary theory about the phenomenon, statistical hypothesis-testing is premature. Nevertheless, my naturalistic approach may appear unscientific to some; therefore, here is a justification.

Science is an attempt to make statements about the world that anyone can replicate, whereas art is a deliberate attempt to state something from a personal perspective (O'Hear 1995). My view of history, and what I hear in an interview, and how I classify agreements is not
Fig. 1. Schematic map of intellectual disciplines and interdisciplinary thought pertinent to improving endangered species recovery.
replicable, but neither is it deliberately personal. It is in between, and that is the realm of the naturalist.

Naturalistic science — relying on observation, induction, invention, and intuition — is the first and most basic scientific discipline. Biologists, acting as naturalists, relied on induction in the middle decades of this century as they developed criteria for sex and age of wildlife (Dimmick and Pelton 1994). For example, one of the most common skills of biologists, estimating the age of white-tailed deer, is based on the examination of numerous jawbones (Severinghaus 1949). These techniques are no longer the most accurate, but they were the mainstay of research and management until replaced by new techniques.

The most influential theory in the natural sciences was also induced from an observed database. Charles Darwin "returned after a voyage of five years with a firsthand knowledge of geology and zoology ... and ... the germinal ideas of his theory of evolution" (Eliot 1909:5). Darwin himself described his work as the success of "unbounded patience in long reflecting over my subject -- industry in observing and collecting facts -- and a fair share of invention as well as of common sense" (Eliot 1909:8). Naturalistic science is also found in physics. Einstein said, "There is no logical way to the discovery of these elemental laws. There is only the way of intuition, which is helped by a feeling for the order lying behind the appearance" (Einstein 1933).

The need for induction, invention, and intuition in science is not, however, a license for creative writing. Darwin and the others saw the need to present for review the data from which they built their theories. "No one can feel more sensible than I do of the necessity of hereafter publishing in detail all the facts, with references, on which my conclusions have been grounded" (Darwin 1859:22). The value in having others review the data of a naturalistic study is to sharpen the researcher's eye for "the order lying behind the appearance."

**A Search, Not a Sample**

Using a technique called snowball sampling (Strauss and Corbin 1990), I moved deliberately from one story about an agreement to another, usually asking people involved to help me find another case of agreement. I searched; I did not sample. The result is 48 cases of agreement representing numerous documents and 27 interviews. Later in the paper, I call the interviewees "members" because they all belong to the population of people who know how to reach agreement about conservation on private land. This group of people does not represent a sample of the views about reaching agreement in the statistical sense. Statistically speaking, a
sample is a subset of a population drawn randomly or by some design to represent the population.

Capsule of Findings

Governmental Conservation: Analysis, Planning, and Centralized Power

During the frontier era in American history, resources were open to taking by anyone and the resources dwindled: a scenario known as the "tragedy of the commons" (Hardin 1968). People responded by limiting access to the commons. Authority for limiting access was vested in state and national government. Under this regime, bureaucrats allocated resources by believing in "the gospel of efficiency" (Hays 1959) and responding to special interests. Efficiency prompted rational-comprehensive planning schemes. Influence worked by relationships among the bureaucrats, Congressional staffs, and interest groups that resulted in "contracts" allocating values. Relationships leading to "contracts" also were shared by local agents of Governmental Conservation, such as forest rangers, game wardens, and local citizens. However, as resources became scarcer, more and broader interests demanded a share of the values. Ultimately this led to laws and regulations that constrained local (native) officials and forced more reliance of scientific rules of Governmental Conservation.

Under the central organization of Governmental Conservation, bureaucrats attempt to enlarge the budget of their programs and retain authority in allocating that budget (Cubbage et al. 1993). Decentralizing power, by enabling more local decisions, is painful for the power-brokers in public office and interest groups. All experience says that decentralized organizations work better, but political appointees continue to act to centralize power.

In Conservation, People Negotiate Local and National Interests

Whereas the public lands and wildlife are held in trust by state and federal government on behalf of the entire nation, these resources are particularly interesting to the local people who live in their midst and rely on some of these for their economic well-being. Recognizing the local interest in public resources, Gifford Pinchot directed forest rangers to become part of their communities. Later, the Forest Service and other agencies became concerned that local agents who have "gone native" were cutting deals against the national interest. Agencies then began moving agents more frequently, prohibiting them from going native. Also, laws were passed that established cumbersome processes for publicizing and gathering comments on the activities of
public agencies. The National Environmental Policy Act is the primary of such laws. The Federal Advisory Committee Act is another such law. Because people can file lawsuits challenging agencies' adherence to the processes required by these laws, agency conservationists can be inhibited in dealing with local people (see pp. 37).

People reaching voluntary agreements today try to balance the local and national interests within rules established to protect the national interest. This finding is introduced in Chapter 2 and discussed in Chapters 3, 4, and 5.

**Local Conservationists Rely on Trust and Relationship**

Voluntary agreements today result from relationships among public agents, local conservationists, and landowners. Conservationists have learned to build relationships and establish trust in communities so that agreement is possible. Moving from these relationships into circumstances in that community, and then to specific terms of an agreement requires a knowledge of the interests and concerns of landowners. I report these stages in Chapter 3.

Agreements use the same science employed by Governmental Conservation, but local people apply this knowledge secondarily to building the relationships that base their bargaining. Once the bargaining relationship is underway, people apply the facts and findings of science to the agreement they are trying to reach. There are face-to-face encounters here that conservationists and landowners need to learn to do.

**Market Conservation Results in at Least 9 Types of Agreement**

Agreements that are reached take 9 main forms. The types are: (1) Registry; (2) Reward and Compensation; (3) Lease; (4) Cost-share; (5) Easement; (6) Franchise; (7) Private Management; (8) Exemptions; and, (9) Working Together and Miscellany. These types can be modified or used to define new types. These details are presented in Chapter 4.

**Costs Constrain Voluntary Agreements**

Assuming conservationists and landowners establish sufficient trust and relationship, and assuming they overcome the constraints in place to protect the national interest, they must face the costs of reaching agreement and carrying out conservation practices. These costs arise from: (1) finding trading partners, (2) defining and measuring rights of trade, and (3) ecosystem dynamics that destroy conservation values.
Voluntary Agreements Need a Forum

Now we have returned to a setting where public agents are faced with bargaining but now they are constrained by the rules of Governmental Conservation that developed since Gifford Pinchot urged his forest rangers to “go native.” Local conservationists and landowners are struggling to reach agreement within constraints imposed by the formal arrangements codified in laws such as the Endangered Species Act. This presents the policy challenge of allowing local people to experiment with local arrangements while still protecting the national interest in endangered species. This finding is reached in Chapter 5.

Conclusion

Market Conservation will develop further as local people are enabled to reach durable agreements and if these agreements lead to protected and improved wildlife habitats and populations. To enable local people and conservationists, we must temper legal constraints such as the Federal Advisory Committee Act, the National Environmental Policy Act, and the threat of litigation. Supervisors of local conservationists need to stop evaluating job performance solely in terms of acres treated or ecological conditions improved, and begin measuring the ability of local conservationists to become trusted members of their communities. This entails allowing time to local conservationists to be available in communities for chance encounters, to join community events, and to work with local people on small projects. In some cases, local cultures will need to change: receiving payments to protect gray wolves on private property will need to become acceptable just as charging hunters for access has had to.

My recommendations (Chapter 5, draft pp. 77-79) will help conservationists and landowners experiment with Market Conservation. The value of their agreements to the conservation movement will be seen in retrospect, when land, water, fish, and wildlife have had time to respond to conservation work done by voluntary agreement.
In Fall 1993, the U.S. Fish and Wildlife Service dispatched federal game wardens to their Austin, Texas, office to investigate a large number of reports that landowners were illegally clearing land that was habitat for golden-cheeked warblers (Dendroica chrysoparia) and black-capped vireos (Vireo atricapilla) (Bantz 1993). In another place and time, about a century earlier, in 1886, a troop of the First Cavalry arrived at the 14-year-old Yellowstone Park to begin "roaming the back trails and canyons, flushing out hunters, woodcutters, and souvenir collectors" (Trefethen 1975:79). Like any armed police action, these were tense for the people involved.

Wyoming in 1886 and Texas in 1993 are cases of growing pains in American conservation: tense moments that marked the birth of new conservation strategies. The strategy developed after the Yellowstone incident is Governmental Conservation, which is the system of federal and state agencies, public lands, and the laws and regulations by which they are managed. This, along with the non-governmental organizations, is conservation as we know it in America. Tension over endangered species issues such as the example from Texas marks the
forming of a new strategy, Market Conservation. This approach depends on local people reaching agreements to protect and restore endangered species and other natural resources.

The fundamental chronology of American conservation shows that local people find ways to influence conservation with their view of costs and benefits (Fig. 2). Economic concepts such as property rights and social cost played a role. Political leadership of Progressive politicians such as Theodore Roosevelt also influenced this history. Evolving scientific ideas helped move conservationists from protecting to producing wildlife, and changed our view of nature as a machine to nature as a living being, adapting to conditions. These and other factors have brought landowners and conservationists into personal relationships where they reconcile their rival interests in resources. The following chapters describe these relationships that relieve the tensions.

**Competition for the Commons: 1600s – 1930s**

The decision to hold wildlife as common property is a defining feature of American conservation history from European immigration in the 1600s to the 1930s. This decision brought the risk of a “tragedy of the commons” and set up a rivalry between the interests in wildlife held by all Americans everywhere and the interests of local Americans living in the midst of the wildlife and other resources.

Free from royalty that had excluded them from wildlife in Europe, and in the midst of an abundance of wildlife such as they had never seen, European immigrants to North America hunted and fished freely to sustain themselves. Wildlife began to decline fairly quickly: local ordinances limiting the killing of deer began in the 1600s (Leopold 1933). This scenario fits what Hardin (1968) called the “tragedy of the commons” and shows how that tragedy is prevented or averted.

The “tragedy of the commons” is that people will not maintain or enhance a resource that is open for all to use; the solution is “mutual coercion, mutually agreed upon” (Hardin 1968). Wildlife, by definition, is free to roam; therefore, no one can control access to it. Every person living in the midst of the wildlife can try to capture some of it. No one invests in maintaining the wildlife because their investment would be lost to whoever reaps the benefit before they do. Hardin (1968) extrapolates this scenario to its tragic end: a resource useful to everyone is exhausted because everyone uses it but no one maintains it. The only way out is for the users to agree among themselves to limit their use. They coerce each other by mutual agreement.

Game ordinances in the 1600s were the first step of mutual coercion agreed to by the new Americans. After restrictive ordinances came governmental agencies. People realized that
Fig. 2. Fundamental Chronology Leading to Voluntary Agreements

- Local people compete for wildlife; “tragedy of the commons” looms; property rights for wildlife are not established.
- U.S. creates federal agencies to protect the national public interest in wildlife.
- National interest formalized as “Governmental Conservation,” run by a central bureaucracy of technically-trained resource specialists and funded by taxes.
- Relationships with local people are discouraged.

- Nature Conservancy begins dealing in real estate market for conservation purposes.
- Economists rethink social cost and tragedy of the commons.
- Market Conservation begins developing.

- Endangered Species Act passes.
- Limits of Governmental Conservation when local interests are excluded.

- Endangered Species Act amended to include some local interests.
- Voluntary agreements become popular, Market Conservation enters formative stage.
limiting access to wildlife, especially wild fisheries, was hard to administer. It was hard to ensure equitable opportunities because fish-harvesters could strategically place nets and effectively eliminate another person's chance to catch fish. Also, some state governments shared access to rivers and other bodies of water which raised the question of who held superior authority. These problems motivated the establishment of the first federal agency in fish or wildlife management: the U.S. Fish Commission established in 1871.

Forming federal commissions did not solve all problems with managing wildlife, but it founded the governmental strategy and established a national interest in wildlife and natural resources. National interest is the right, claim, or legal share to wildlife and natural resources that American citizens hold, and that the governmental agencies represent. Individual citizens, or communities, have been required since the beginning of Governmental Conservation to clear their use of wildlife and natural resources with all other Americans.

Although the common-property nature of wildlife was the driving force toward Governmental Conservation, other factors played a role and helped define how Governmental Conservation works. During the presidency of Andrew Jackson (1829-1837), interpretations of the Constitution by the Supreme Court began setting legal precedent for government to interfere with individual action (Anderson and Hill 1980). A political ideology known as Progressivism developed and – among its other objectives of trust-busting and dethroning "robber barons" – pushed a "gospel of efficiency" in land management (Hays 1959). Efficiency was the goal of calculations that divided land-management values equitably by professionally trained specialists in the Executive bureaucracy. The Progressives changed the Executive branch from a passive affirmer of policies made by Congress into a technically skilled developer of policy. Efficiency was possible, in part, because interests in land were divisible: amounts of land, water, timber, and other commodities could be divided and distributed.

Private ownership of wildlife and resources – the alternative to public ownership – was considered, but the only property right imaginable at the time was in physical control of land and wildlife (Tober 1981). In addition, the costs of establishing ownership to the amenity values of land and wildlife were prohibitive. In short, neither the political nor economic conditions for the evolution of property rights over wildlife were in place.

The scientific understanding of wildlife management is the closing point on this first phase of history. Leopold (1933) wrote the first text on the subject. He reported that concepts of game management evolved in history from protection of stocks to managing the ecological factors on which those stocks depend. His definition of game management marked the transition in
America from a mostly protective strategy to one that would “produce annual crops.” In the next phase of history, American conservationists worked to do just that.

**Governmental Conservation: 1930s – 1970s**

In the 1930s, the final pieces of Governmental Conservation were placed. Combined with Congressional "power to dispose of and make all needful rules and regulations respecting the territory or other property belonging to the United States" (U.S. Constitution IV §3), the Progressives had institutionalized a system of public land overseen by an executive bureaucracy. America’s investment in education through land-grant universities was producing professionally-trained resource managers. These managers were organizing themselves into professional societies like The Wildlife Society, founded in 1937. Taxes were the main means of funding conservation. The Migratory Bird Stamp Act (1934) and the Federal Aid in Wildlife Restoration Acts (1937 and 1950) created a financial base for much of the game management for waterfowl and restoration of white-tailed deer (*Odocoileus virginianus*) and other game species.

Interest groups had been forming since 1875 (American Forestry Association), and continued to organize as the first conservation model formed. "Power clusters" (Behan 1977) or "iron triangles" (Cubbage et al. 1993) developed as these groups built relationships with members of Congressional and agency staffs. These clusters created a powerful role for small groups or minorities. Especially in technical issues, agency specialists, lobbyists, and Congressional staff together become the experts, thus limiting substantive debate to a small group. Hays (1959) described the Progressive leaders of conservation as such a minority. The political battles among the minorities lobbying for their interests began as early as 1924, when the magazine *Outlook* criticized the U.S. Forest Service for over-emphasizing recreation over forestry (Carhart 1962).

Governmental Conservation was also marked by policies that prevented local agents from “going native.” As representatives of the public interest in valuable natural resources, and also as residents in local communities, these agents walked the line where local and national interests meet. To some extent, federal agencies moved their local representatives frequently to prevent them from becoming too sympathetic to local interests and therefore too lenient in controlling the use of public resources. Kaufman (1960:218) put it this way:

The practice of transferring men rapidly, particularly in the early stages of their careers, also counterbalances the danger of their being ‘captured’ by the communities in which they live and work. To be sure, the Forest Service encourages its men to recognize and understand the concerns of their communities, and to take part in community affairs. But there have been
instances in which the utility of a good forest officer has been gravely reduced because he became so enmeshed in local affairs that he could not properly discharge his responsibilities as a representative of the agency and the agency's view of the public interest.

Peterson and Speth (1982:13) describe in detail the problem early forest rangers had in being "a promoter and educator [of conservation] and ... a policeman." This "created tension and confusion," Peterson and Speth (1982:13) go on to say, and represents a battle as old as the colonial struggle for self rule and as new as the Sagebrush Rebellion. Part of the difficulty was in the inability of anyone to divide the uses of public land in any way other than through a public decision-maker such as a ranger. Events of mid-century, however, began to remove that barrier as The Nature Conservancy formed and Ronald Coase began devising new ways to apply market principles.

The Beginnings of Market Conservation: 1950s – 1960s

The birth of Market Conservation as an alternative to Government Conservation began in the practical work of The Nature Conservancy and the theoretical work of Coase (1960). Ronald Coase is an economist who won the Nobel Prize in 1991. The Nature Conservancy was formed in 1951 by ecologists who wanted to apply their skills on private land (TNC 1997). The Conservancy began dealing in real estate to protect conservation values of private land. By doing this they demonstrated a principle that Coase later described. To my knowledge, there was no connection between Coase and the Conservancy.

Coase (1960) argued that the costs of pollution (the classic "externality") could be covered by defining new property rights based on the actual costs perceived by people involved in the pollution. That new right could be the sufferer's right to clean air, or the polluter's right to dispose of waste. The polluter and the sufferer could strike a deal either by having the polluter pay the sufferers for the right to pollute, or the sufferers could pay for the right to clear air.

By 1951, when the Conservancy began its work, Governmental Conservation was operating clearly and somewhat effectively, creating a "clear tendency in American conservation to relegate to government all necessary jobs that private landowners fail to perform" (Leopold 1949:213).

Government ownership, operation, subsidy, or regulation is now widely prevalent in forestry, range management, soil and watershed management, park and wilderness conservation, fisheries management, and migratory bird management. Most of this growth in governmental conservation is proper and logical, some of it is inevitable (Leopold 1949:213).
The assumption in most people’s mind had to be that if private lands harbored some rare or beautiful feature, then a governmental program would be the way to protect it. That was not the assumption of the Conservancy’s founders.

The Conservancy demonstrated Coase’s principle of reciprocity by raising private funds to buy private property to protect ecological features of land in the public interest. Analogously to Coase (1960) and the example of a polluter, a private landowner who intends to destroy a rare or beautiful feature of his or her land is the polluter. Losing that feature would be a cost to society as is tolerating pollution. Government could stop the landowner, thereby imposing a cost on the landowner. On the other hand, the Conservancy decided to impose the cost on society by raising private funds to pay the landowner or buy the land.

The economic picture today is much different. Land values have risen so high that Roosevelt’s inheritance tax has become, ironically, a threat to conservation (Small 1992). Because the tax has become expensive to people of common means, families must often sell lands for their highest market value (small parcels for real-estate development) in order to pay the tax. Also, people have made land ownership complex by defining multiple property rights for a single tract of land: public lands are leased for specific uses, private lands are "encumbered" with easements that transfer limited property interests to conservation groups. Lueck (1995) showed that various rights to land can be held by several parties, and also that landowners with enough land to encompass the range of a population can, by controlling access, achieve de facto ownership of that population.

**Endangered Species Act and Limits of Governmental Conservation: 1970s – present**

The Endangered Species Act laid out a process by which specialists would analyze the likelihood that a species could persist and carry out a plan to raise that likelihood. No one anticipated the costs.

After the Endangered Species Act became law in 1973, its supporters were surprised by the lack of rapid listings and delineations of critical habitat. Twenty years after passage, the process still is slow and questionable in effectiveness. Yaffee (1982) concluded that during the 5 years between passage and the first amendments to the Act in 1978, most proposals for listing particular species languished in the review process. Similarly, he observed that critical habitats were designated only under pressure of litigation. More recently, Tear et al. (1993) argued that
recovery targets are often below scientific opinion of what levels would maximize the chance of saving the species. The problems with the listing process, according to a Fish and Wildlife Service assistant regional director quoted by Cohn (1990:22), boil down to, "In a nutshell we're too busy with other species... We don't have the money or resources to list every species that deserves it."

Statistics summarize the situation: 3,600 species proposed for listing; about 780 listed; 367 recovery plans approved; and only 18 species removed from the list (6 recovered, 6 disqualified, 6 extinct) (Shank, USFWS, pers. comm. 1993).

The explanation lies in two faulty assumptions: (1) technical definitions exist for central components of the policy such as endangered status and critical habitat, and; (2) a policy such as this, which prohibits certain actions, eliminates discretion among decision-makers in the implementing agency (Yaffee 1982). In practice, the Fish and Wildlife Service and National Marine Fisheries Service found room enough within the Act to establish an unstated policy composed of 2 themes: delay decisions in the face of controversy, and act conservatively (i.e., minimize the number of species listed and area of critical habitat designated).

There are costs to bureaucratic foot-dragging. Obviously, those favoring the policy were dissatisfied for lack of progress. Those opposed and indifferent both paid in terms of stress and financial losses generated by the uncertainty and delay. Other federal agencies, such as the Corps of Engineers were required to wait on decisions from the Fish and Wildlife Service and National Marine Fisheries Service to complete consultations on projects. Private individuals waiting for permits from the Corps of Engineers were, in turn, delayed, which cost some of them in interest payments, idled equipment, and other expenses incurred by delayed projects.

On the macroeconomic scale, the near scuttling of the Tellico Dam project resulted in the clear statement of the Supreme Court that "the plain intent of Congress in enacting this statute was to halt and reverse the trend toward species extinction, whatever the cost" (T.V.A. v. Hill ). On the microeconomic scale, individual landowners have lost values from their land when regulations under the Endangered Species Act precluded them from building on or otherwise developing all or part of their property: Fitzgerald (1993) describes several cases of this, including the Off family in the San Joaquin Valley, CA, and the Morian family of Austin, TX. Many of these "horror stories" have intricate details that authors seem to shuffle according to their own political views, but the case law behind the problem of regulating private land is clearing up. "If a regulation destroys the opportunity to use one or more of the sticks [representing one or more rights to land], but the remaining sticks give value to the bundle [of sticks] as a whole, no taking has occurred" (Duerksen and Roddewig 1994:17-18).
ESA Amendments of 1982 Open the Door for Local Interests:
1980s – present

Responding to the costs inadvertently imposed on local people, Congress amended the Act in 1982 to allow otherwise legal activities to proceed, under certain conditions, even if these activities harmed an endangered species. For example, in reintroducing the red wolf to coastal North Carolina, the U.S. Fish and Wildlife Service allowed local hunters and trappers the right to accidentally kill or trap a red wolf. Hunters and trappers would be forgiven their error if they reported the incident within 24 hours and if investigators agreed it was an accident.

Also responding to costs imposed on local people, but not waiting for an act of Congress, Defenders of Wildlife – a non-profit environmental organization – raised money with which to reimburse ranchers for the cost of livestock killed by gray wolves in Montana and Idaho. Upon determination by a wildlife biologist that dead stock was killed by wolves, Defenders would pay the rancher.

Defenders was practicing “free-market environmentalism” (Anderson and Leal 1991). The concept is to establish property rights for features of the environment and then bargain for them. For example, the value of gray wolves held by environmentalists was meaningless to landowners because there was no way for the landowner to profit by having wolves around. Defenders found a way to frame a transaction around the fact that the landowner is tolerating, if not supporting, wolves. Through the Defenders program people who value wolves can give landowners an incentive to maintain or enhance the suitability of his or her land for wolves.

Market Conservation comprises more than the "free-market environmentalism" of Anderson and Leal (1991). Free-market environmentalism is based on a world view of people tending toward self-interest, where pertinent knowledge about resources cannot be captured by the people in a single government agency or a single company (Anderson and Leal 1991). A related, but larger, concept is "market liberalism," which has been defined as "forward-looking...comfortable with a changing world, tolerant, and enthusiastic about market process and individual liberty" (Boaz and Crane 1993:9). Market liberalism adds to free-market environmentalism the social dimension of a cosmopolitan, inclusive society. This describes the attitude of local conservationists and landowners today who are learning to enjoy their differences. Putting these ideas together, I call today’s voluntary agreements, Market Conservation. I prefer “conservation” to “environmentalism” – although these words can be
used synonymously for political reasons – because conservation implies to me judicious use of resources and environmentalism implies protectionism.

Citizen Management: 1990s – present

As of this writing, the U. S. Fish and Wildlife Service proposes to authorize a group of citizens and agency officials to reintroduce grizzly bears in northern Idaho (USFWS 1997). This plan admits local interests to conservation like no other of which I am aware.

Depending on the outcome of the proposal, the Citizen Management Committee could become a model for Market Conservation. To restore the bear, the citizen management committee must negotiate the value of bear habitat and rival uses people have for that same land. For example, if citizens allow forest products companies to harvest so many trees from the forest that bears can be seen from long distances, then the risk of bears being shot rises. The relationship between tree-density and shooting-risk has not yet been estimated, much less determined with accuracy. Other values at stake are even harder to describe; for example, how does the recreational value of the forest change when there is a risk of a grizzly bear nosing into a tent? These values obviously differ among local people who will live in the midst of the bears, and other Americans who will enjoy simply knowing that bears are back in Idaho. Through a citizen management committee, local people will have a direct and mandated authority to assert their values in the decision within the constraints of the National Environmental Policy Act, the National Forest Management Act, the Endangered Species Act, and other applicable laws.

Conclusion

This brief and superficial history of forces driving conservation has brought us to a place of figuring out how to arrange conservation voluntarily. This is the setting for the news of peaceful solutions to conflicts over endangered species conservation. In Louisiana, a group of landowners, agencies, conservation groups, and academics decided to work together as the Black Bear Conservation Committee and wrote a recovery plan that was adopted by the U.S. Fish and Wildlife Service for the threatened Louisiana black bear (*Ursus americanus luteolus*). In the Sandhills of North Carolina, a working group of public agencies, conservation interests, community groups, and private landowners developed Safe Harbor, a concept that limits a landowner's legal obligation so they feel free to improve the status of red-cockaded woodpeckers (*Picoides borealis*) on their land. In Montana, as I mentioned at the start of Chapter 1, Defenders of
Wildlife is delivering rewards of $5,000 to landowners on whose property endangered gray wolves den.

The growing number of cooperative solutions with landowners is an encouragement and a challenge. It encourages us to believe that people are capable of productive negotiation and challenges us to understand how it is done so we can do it more often and more effectively. Concepts of negotiated conservation, or Market Conservation, are only beginning to appear in the writings of wildlife and forestry professionals. Wildlife professionals seem limited to the neo-classical economic paradigm (Geist and McTaggart-Cowan 1995, Schildwachter 1996a), but foresters seem farther along in recognizing ideas such as free-market environmentalism (Cubbage et al. 1993). Neither foresters nor wildlife professionals have any guidance widely available on using voluntary agreements. This is evident in the writings of those who lament the fact (Maehr 1990) and those who ignore the problems it raises (O'Connell and Noss 1992). In the next chapters, I explain what case studies can teach us about how to reach agreements in conservation.
# Chapter Three

## Accommodating Interests with Trusting Relationships

**REACHING AGREEMENT MEANS ACCOMMODATING OTHERS’ INTERESTS**

**TO REACH AGREEMENT REQUIRES TRUSTING RELATIONSHIPS**

**PERSONAL RELATIONSHIPS**

**COMMUNITY RELATIONSHIPS**

**HOW I REACHED THESE CONCLUSIONS**

**STUDYING THE BARGAIN**

- Gathering Data
- Analyzing Data
- Reporting the Analysis
- Creating an Incentive

**REACHING AGREEMENT**

**STARTING**

- Meetings, Personal Visits, and Simple Projects
- Spending Time in the Community

**CONTACTING**

**TALKING_LISTENING**

- Small-talk
- Privacy
- Sharing an idea of something to do together, not an offer
- A way of learning and caring
- A way of venting and resolving misunderstandings
- Holding Your Tongue

**OFFERING**

- Wait for the Right Time
- Appeal to a Person’s Interests
- A Generic Offer at First
- Gathering Information
- Referrals

**OTHER CONCEPTS**

- Ownership
- Accountability
- Lacking Resources
- Leadership
- Alternatives
- Momentum
- External forces

**CONCLUSION**
To begin this chapter, I will get straight to the main point: to reach agreement, conservationists and landowners must accommodate each other's interests, and doing this requires that they have trusting relationships. After two sections illustrating these conclusions, I explain how I arrived at them.

**Reaching Agreement Means Accommodating Others' Interests**

To understand what was happening in cases such as the Black Bear Conservation Committee and Defenders of Wildlife, I began talking to the people involved. Mostly, they talked about interests: their rights, claims, and desires, and those of their counterparts. In reaching agreement, they were accommodating each others' interests.

RF: "We need a forest out there that can do what everybody needs it to do."

GS: "The Forest Service was interested in doing their thing on National Forest lands."

JS: "Oh, I've got to go along with it, I may not like it, but I'll put my twist into it wherever I can put my twist into it."

GW: "The difference is being willing to compromise, using common sense and reason."

GW: "The agenda in my mind is what I said before, when people come in set in their ways and are uncompromising. I question the motivation of the people who filed the petition [to list the Atlantic salmon as endangered]. I remember something in the paper that if the Bangor hydro would throw out their permit to build the Basins Mill dam, they would throw out their petition to have this fish listed, which tells me that they've got an agenda."

GW: "Even when their whole life is around the salmon and saving the salmon, and I understand that, that's what they're paid to do, that's what they're trained to do, and that's what they supposed to do. And they need to understand that I am paid and trained to grow blueberries and make a profit and that's where we have to understand that and cooperate."

JS: "What's their job? Their job is to improve that earth, make it the best obviously and in the back of everybody minds: recreation. They've got to raise the elk, that's what creates the
dollars. We just see a little different on wildlife issues. That's his business, his area."

GS: "We were trying to get guys ((private landowners)) to plant something other than crested wheatgrass."

RF: "Where our forests were growing to supply our mills ... we got so restricted so narrowed in. You know, an eagle’s nest, and we can't go within a half mile, we believe in that, we'd do that, but just the same, all these things are just nipping away and eventually it limits your ability to do business."

To Reach Agreement Requires Trusting Relationships

Throughout this chapter, the words of people I interviewed make clear that trust and relationship are necessary for agreement.

Personal Relationships

JM: "The reason it got started over there is that a lot of people in the wildlife management districts were already working with farmers. A lot of our easements over there that we currently have were started by Partners for Wildlife Projects developing credibility and trust with the landowners."

GN: "These relationships, you know, sometimes you get so focused in on doing a project that, you know, I don't have time to talk to the fisheries guys, I don't have time to deal with that group over here, I just want to go out and do this project. Up front it takes a long time to establish those relationships with the fisheries guys and all those other agencies and groups and whatnot. It takes a long time to get that up front but once you establish that relationship, you feel comfortable with him, we're at the point now where, shoot, it's no big deal, I mean we get permission from a fisheries biologist over the phone to do, you know, they feel trust, they have a lot of trust and credibility with us and they say, 'Oh, yeah, you know what you're doing, go ahead and do it.' But up front it took us years to get where we're at, but now that we're there, we've put a lot of time in but, shoot, now it's a piece of cake. You know all the players."

JS: "if there's a problem – agriculture vs. U.S. Fish & Wildlife – bring those two groups
together, [and] talk about it. People are actually big enough to sit there and tell you to your face instead of the usual confrontation stuff."

**Community Relationships**

The "grapevine" is another example of local relationships working to help or hinder agreement.

When conservationists are well-received and lay to rest people's concerns, then:

GS: "...then you can start seeing how things, how the grapevine, really starts to work. And things just take off at that point."

When conservationists do not build trust, then:

GS: "As soon as we had that first meeting, that's when the rumor mill started about, 'Boy there's this big movement and these guys are cooking a conservation strategy up to move the Bob Marshall Wilderness Area up to Highway 89.' And that's how that whole rumor, the grapevine, the phones started ringing and then, then we were on the defense from there on."

**How I Reached These Conclusions**

I focused this study on face-to-face encounters between conservationists and landowners. This required qualitative research methods, which I describe in the following sub-section, Studying the Bargain. In the next sub-section, Creating an Incentive, I explain how this approach shows that incentives are created by agreements.

**Studying the Bargain**

Accepting the importance of understanding face-to-face encounters between conservationists and local people still leaves the problem of knowing how to study those encounters. This section explains how I studied those encounters.

**Gathering Data**

I reviewed 48 cases of voluntary agreements between landowners and conservationists (Table 1). For each case I had at least an anecdote describing what happened (n=14), and for others I had written or photographic material (n=15), and for some I also collected interviews (n=19). Because I collected multiple interviews per case, the total number of interviews is n=26. I
looked for differences among the ideas of people within each case and also between cases. For example, the Blackfoot Challenge case and Project SHARE both involve groups in which pairs of people reach agreements of their own. The Blackfoot Challenge interviews emphasize one-on-one agreements and Project SHARE emphasizes group work. The landowners interviewed for this report are ranchers, small agricultural business managers, large industrial-lands managers, and small owners with employment off the property.

Table 1. List of cases studied. (A.) Types of information. (B.) Names and anecdotes of cases.

<table>
<thead>
<tr>
<th>A. Type of information gathered</th>
<th>Number of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviews, Materials, Anecdote</td>
<td>19</td>
</tr>
<tr>
<td>(note: total number of interviews, n=26)</td>
<td></td>
</tr>
<tr>
<td>Materials, Anecdote</td>
<td>15</td>
</tr>
<tr>
<td>Anecdote</td>
<td>14</td>
</tr>
<tr>
<td>Total</td>
<td>48</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B. Names and anecdotes of cases</th>
<th>INFORMATION GATHERED</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACE Basin</td>
<td>Anecdote Material</td>
</tr>
<tr>
<td>A cooperative group that restored an estuary where the Ashepoo, Combahee, and Edisto Rivers converge in South Carolina.</td>
<td></td>
</tr>
<tr>
<td>Applegate Partnership</td>
<td>Anecdote Material</td>
</tr>
<tr>
<td>The AP is a community-based project in southwestern Oregon involving industry, conservation groups, natural resource agencies, and residents cooperating to encourage and facilitate the use of natural resources by principles that promote ecosystem health and diversity. Through community involvement and education, this partnership supports management of all land within the watershed in a manner that sustains natural resources, and that will in turn, contribute to economic and community stability within the Applegate valley.</td>
<td></td>
</tr>
<tr>
<td>Black Bear Conservation Committee</td>
<td>Anecdote Material Interviews</td>
</tr>
<tr>
<td>A group of private, state, and federal wildlife professionals, timber company personnel, farmers, and environmentalists that has organized to study and manage the Louisiana black bear.</td>
<td></td>
</tr>
<tr>
<td>Blackfoot Challenge</td>
<td>Anecdote Material Interviews</td>
</tr>
<tr>
<td>A cooperative group formed in the Blackfoot Valley in western MT to coordinate efforts of conservationists and reach voluntary agreements with landowners. Since formation, they have accepted an invitation to become a working group for the Montana Bull Trout Restoration Team.</td>
<td></td>
</tr>
<tr>
<td>Bull Trout Restoration Team</td>
<td>Anecdote Material Interviews</td>
</tr>
<tr>
<td>Montana Governor Marc Racicot held a roundtable, which produced a task force, that was charged with planning and implementing the restoration of bull trout in Montana.</td>
<td></td>
</tr>
<tr>
<td>California Coastal Habitats (NCCP)</td>
<td>Anecdote Material</td>
</tr>
<tr>
<td>The National Fish and Wildlife Foundation funded the state agency to establish innovative plan to protect critical California coastal sage habitat and species that depend on it. The parties are trying to form a preserve system.</td>
<td></td>
</tr>
</tbody>
</table>
Cameron County Ag-Wildlife Coexistence Committee
A group diverse interests in Cameron Co., Texas, that organized to coordinate pesticide use with reintroduction of Aplomado falcon (Falco femoralis).

Chickasaw-Shiloh Resource Conservation and Development Council, Inc.
A group in western Tennessee trying to implement "best management practices" on cropland in the Bear Creek watershed to reduce annual sediment load by 50% by providing technical assistance and educational outreach to farmers.

Colorado Division of Wildlife
The Division acts as a franchiser by requiring financial compensation and specified performance from a landowner, the franchisee, in exchange for the right to sell big-game hunting permits (see p. 69).

Crawford and Bourland Consulting Foresters
These consultants arrange fee-access programs for private landowners in the southeastern U.S. (see p. 63)

Defenders of Wildlife
In the Rocky Mountain region, Defenders offers two programs: one compensates ranchers who lose stock to wolves, the other rewards ranchers when wolves den on their property (see p. 62).

Delta Waterfowl Foundation
In the Dakotas and central Canada. Delta leases private property to establish nesting cover for waterfowl (see p. 65).

Deseret Land and Livestock
Deseret participated with the Utah Division of Wildlife in the management of a rare sub-species of cutthroat trout by creating a holding pond at their own expense. Deseret recovers its cost by selling catch-and-release angling excursions (see p. 70).

Ducks Unlimited
DU arranges with landowners to promote the quality of waterfowl habitat and maintain private ownership of land. They run a private lands program including the Central Valley of California, North Dakota pothole region, and Arkansas lower Mississippi Valley.

ECOTRUST
Created a regional planning team of government agencies, major landowners, commercial and recreational fishermen, and others to develop multi-jurisdictional habitat restoration and salmon management plan for Willapa Bay, WA, region. ECOTRUST is an offshoot of Conservation International.

Endangered Species Program
The component of federal policy, administered by the U. S. Fish and Wildlife Service that identifies and eliminates harm to listed species.

Environmental Defense Fund
EDF leases water rights from landowners, e.g., Skyline Ranch Water Lease (see p. 65).

Red-cockaded Woodpecker
The Red-cockaded Woodpecker Recovery Program plans to offer incentives to landowners based on numbers of individual birds.

FishAmerica Foundation
Coordinates nonprofit sport-fishing and conservation organizations to conduct small-scale water resource and fish enhancement projects in U.S. and its territories.

Fossil Rim Wildlife Center
This private group has a permit to breed endangered species at their 3,000-acre ranch in Glen Rose, TX. They try to fund the work by selling admission to a drive-through zoo of free-ranging African wildlife.

Frontlanders
A group of public and private conservationists on the eastern front of the Rocky Mountains in Montana who
Some landowners eventually broke off from the group in suspicion of the conservationists and formed their own, "property rights" group.

Milk River Basin Project; Prairie Pothole Project
A multiple-partner waterfowl management project guided by the North American Waterfowl Management Plan with budgets in the millions of dollars.

Mississippi Department of Wildlife, Fisheries and Parks
The Department is restoring 10,000 acres of private wetland habitat important to wintering waterfowl and other migratory birds using 10-year habitat development agreements with private landowners.

Nature Conservancy
The Conservancy accepts donations of limited rights to land, usually related to development, which they purposely do not use so as to protect biodiversity. They also reach hand-shake agreements to establish conservation practices (see pp. 35, 41).

Ocelot Recovery on Private Land
The Feline Research Program at the Caesar Kleberg Wildlife Research Institute in Kingsville, TX, is trying to arrange an agreement to survey for and possibly reintroduce ocelots to private ranches in southern Texas.

Oregon Water Trust
This non-profit group leases water rights in order to leave water instream. They lease the rights from landowners who normally divert the water to irrigate fields (see p. 65).

Pacific Rivers Council
The Council is developing community-based restoration projects for the Rogue, McKenzie and Grande Ronde watersheds to create jobs and improve local economic conditions as well as restore these ecosystems.

Patenting genes
Corporations and other firms are experimenting with ways to establish property rights over genetic material. Juma (1996) reviews issues in patenting life forms, especially plants, from the perspective of Third World Africa.

Peregrine Fund
The Fund restores birds of prey through partnerships, with permits for handling endangered species (see p. 70).

Plum Creek Timber Co., L.P.
Plum Creek was granted an "incidental take permit" pursuant to regulations under the Endangered Species Act for Habitat Conservation Plans (50 CFR 17.22(b)(1)).

Private breeding facilities
Wolf Sanctuaries, a small group in Indiana, and others like it, have permits to breed red wolves in captivity (see Fossil Rim).

Private Ranches of Montana, Inc.
Private Ranches was a cooperative of landowners in Montana that attempted to sell access to their complex of properties to hunters. The venture failed.

Project SHARE (Salmon Habitat and River Enhancement)
A collaborative group of landowners, conservationists, academics, and agencies in and around Washington Co., Maine, collaborating to restore Atlantic salmon (Salmo salar) by enhancing rivers (see p. 73).

Red Wolf Recovery Program
The Red Wolf Program reintroduced red wolves in North Carolina and Tennessee using the non-essential, experimental designation under the Endangered Species Act (see p. 71).

Redwood Coast Environmental Law Center
The Center is organizing local groups, governments, and corporations to monitor, rehabilitate, and restore...
watersheds along state’s northern 400-mile Pacific Coast ecosystem.

Rocky Mountain Elk Foundation Easement program Anecdote Material Interviews
The Elk Foundation accepts donated easements from landowners whose property offers worthy habitat features for elk.

Ruffed Grouse Society Anecdote
The Society conducts woodcock habitat and research efforts throughout ruffed grouse range in cooperation with federal, state, and private landowners.

Seeking Common Ground Anecdote
A partnership of the National Fish and Wildlife Foundation, American Farm Bureau Federation, Public Lands Council, Wildlife Management Institute, Rocky Mountain Elk Foundation, International Association of Fish and Wildlife Agencies, USDA Forest Service, Bureau of Land Management, and private partners such as the Nevada Cattlemen’s Association, and supporters like the Boone and Crockett Club, Society for Range Management, Isaac Walton League, and the Association of Conservation Districts. These groups work together to coordinate grazing and wildlife management on public and private property.

Sport Fishing Institute Anecdote
The Institute has created an information network of anglers, businesses, and local and state governments in Great Lakes region to promote fisheries conservation and management.

Tennessee Biodiversity Program Anecdote
The Tennessee Conservation League, with support from the National Fish and Wildlife Foundation, is developing geographic information system databases to provide to community decision-makers in Tennessee to encourage land-use planning and land management decisions to follow principles of sustainable development.

Texas Parks and Wildlife Anecdote Material
Leases of private land for Attwater prairie chicken habitat (see p. 64)

U.S. Department of Agriculture, Conservation Reserve Program Anecdote Material
Through the Conservation Reserve, the Department of Agriculture leases private land to establish soil-retaining vegetative cover (see p. 65).

U.S. Fish and Wildlife Service Memoranda Anecdote Material
The Fish and Wildlife Service has been developing policy for voluntary agreements with landowners by entering into a variety of agreements in the southeastern U.S. and elsewhere. These include memoranda of agreement and understanding, and Conservation Agreements, all of which in some way grant landowners authority to harm endangered species incidentally to otherwise lawful activities (see p. 71).

U.S. Fish and Wildlife Service, Partners for Wildlife Anecdote Material Interviews
Through the Partners Program, the Fish and Wildlife Service provides technical assistance and cost-sharing projects to private landowners who agree to restore wetland habitats (see p. 67).

Wetlands for the Americas Anecdote
Wetlands conducts workshops on management of private wetlands for federal and state agency personnel in charge of private lands outreach programs in CA, LA, MA, SC, northern IA, and southern MN. The group works also in Mexico.

Wildlife Habitat Council Anecdote
Arranges wildlife habitat improvements on corporate campuses.

Wisconsin Waterfowl Association Anecdote
The Association collaborates with private landowners to restore small wetlands, using volunteers to identify restoration sites and conduct on-site evaluations.

END OF TABLE 1
My methods for collecting these data came from the field of qualitative research. Qualitative research is a broad term covering the work of scholars whose data are observations, interviews, documents, archives, and artifacts of everyday human life. My interview technique was the "unstructured ... open-ended ethnographic (in-depth) interview" (Fontana and Frey 1994:365). It is a normal conversation that continues throughout the study because "conversations, albeit intermittent, are like ordinary relationships, capable of continuity" (Schatzman and Strauss 1973:74).

For each interview, I found a person who has reached agreement, arranged a meeting, and asked for his or her story about reaching agreement. The only influence I intended to exert was "stimulating the inarticulate, loosening the tongue-tied, [and] steering the 'run-aways'" (Schatzman and Strauss 1973:74). I ended each conversation by thanking the person, explaining that I would study the transcript of our talk and stay in touch. I also asked to be referred to other people, preferably those with a different experience with agreement. I tape-recorded most interviews (n=20), and wrote notes during the others (n=6).

The field of qualitative research is wide, with various methods. The field is, like the data themselves, "open-ended" and resistant to "a single, umbrella-like paradigm" (Denzin and Lincoln 1995:352). Perhaps the only commonality among the various philosophical types of qualitative fieldwork is its strength, which "has always been the 'thick description' of the local, which is glossed over altogether by most other methods" (Snow and Morrill 1995:360). Geertz (1983) called a "thick description" one that explains the meaning of actions for their actors as explicitly as possible. It describes habits of thought and action that people have acquired by living in their community; it describes whatever one needs to know or believe in order to act acceptably among members of a culture. This cultural analysis is meant to describe, whereas traditional hypothesis-testing is meant to verify. "The analysis of [culture is] ... not an experimental science in search of law but an interpretive one in search of meaning" (Geertz 1983:38). A study of landowners' culture is designed to describe how these people reached agreement, not to verify a preconceived notion of why they are reached.

One variety of qualitative research is called grounded theory, and its developers have concluded, after reviewing it with ethnography, phenomenological approach, life histories, and conversational analysis that the purposes of the different approaches "don't appreciably differ for different researchers" (Strauss and Corbin 1990:21). They describe qualitative research as a "nonmathematical analytic procedure ... [using] data gathered by a variety of means [that include] observations ... interviews ... documents, books, videotapes, and even data that have been quantified for other purposes such as census data" (Strauss and Corbin 1990:18). The
analytic or interpretive work centers on coding, which is the process of labeling observations, statements, events and other elements of qualitative data and then organizing them into categories. This is the challenging process of looking at something obvious, like the conversation between an agency forester and a hiker at a trailhead, and describing it. This is the scientific skill of observation to which Teddy Roosevelt referred when speaking to the American Museum in 1918: "what is most needed is not the ability to see what very few people can see, but to see what almost anybody can see, but nobody takes the trouble to look at" (Roosevelt 1918:390).

Analyzing Data

I analyzed the interviews by classifying concepts in the text. This created a hierarchy, or typology, of concepts. Starting with a text, such as an interview transcript, I labeled segments with descriptive codes that summarized their meaning. The statement, "I got hold of him to find out if we might plan a stream restoration project," was coded as "contacting" and sub-coded as "cold-call" or "acquaintance" to differentiate contacts made for the first time from contacts made in the course of a relationship. I then entered codes in The Ethnograph, version 4.0 (Seidel et al. 1995), which enabled me to list all segments from all interviews under each code, creating a hierarchy of concepts. This hierarchy became the outline of what I described below as Reaching Agreement.

Reporting the Analysis

In reporting words from the interviews, I have tried to represent (i.e., re-present what was presented to me) the many things that happen during an agreement without trying to isolate any one thing that makes agreement work. I attempt to represent peoples' views faithfully by quoting them as frequently as possible to illustrate the concepts.

Creating an Incentive

This story from a conservationist employed by a federal incentive program shows that incentives are created by an offer to "trade-off" interests.

GN: "I told him, I said, 'Hey, these are the kind of things you can do to improve your operation. Now, what can we do to help you?' It was just a trade-off ... to help do some duck habitat, or whatever, wetland enhancement and yet we might gain off-site watering, some cross-fencing, grazing. You tell them what you wanted and it was seeing if you could get it done.

"Obviously, they saw just the ... they see the opportunities, from there on, it was sort of
saying, 'Well what can we do to help you out?'

Focusing on trade-offs between conservationists and landowners not only clarifies incentives, but also focuses on a void of knowledge identified by previous scholars.

Coase (1984:231), the economist, said, "Modern institutional economics should study man as he is, acting within the constraints imposed by real institutions." Real institutions, for Coase (1984) include the local customs that influence face-to-face encounters.

The failure of conservationists to recognize local customs and other real institutions frustrated Leopold (1942:295), the biologist, who complained that "we deal with bureaus, policies, laws, and programs which are the symbols of our problem, instead of with resources, products, and land-users which are the problems."

Mangun and Mangun (1991:3), the conservation policy analysts, saw the emphasis on rules and procedure as making conservation top-heavy: "the absence of a prominent role for local government [has created a] dual federalism with the federal government and state governments dominant within their own jurisdictions."

Sociologists have described the difference between formal national institutions and informal local ones as the difference between an "imaginary and mechanical structure" such as laws and policies and a "real and organic life" of customs and habits (Tonnies 1988:33).

The bottom line, as field conservationists can tell you from experience, is that unless conservationists understand and work with local people, conservation will not change management on private land (Thomas 1997).

**Reaching Agreement**

Consider this statement.

**GN:** "...once you've made the initial contact—you've decided on who you want to contact, when you want to contact them, and you start talking to them—there's several things that you do or don't do."

This person encapsulated agreement as a process depending right behavior. In this section I describe the process and the right behavior used by people I interviewed. The main stages are Starting, Contacting, Listening/Talking, and Offering. These stages differ slightly between agreements reached between two people and those reached by groups of people working together, and I will point out those differences along the way.
Starting
Meetings, Personal Visits, and Simple Projects
These are the ways people went out to find potential partners. Agreements started when a conservationist or landowner had an interest at stake that motivated them to start talking about agreement. Beginnings were in group meetings, personal visits, and simple projects.

RF: "We started in, we met down in Charlotte, North Carolina, where the APA meeting was, and everybody thought it was a great idea. We met that Spring, I’d say we started January 94, calling up and talking about who do we need to talk to. "Then we had a meeting on the ESA and [PN] was there."

GN: "We decided to just knock on some doors essentially and see if these folks were interested in restoring those wetlands."

GS: "Sometimes it started with something as simple as a goose nesting structure, giving the landowner, you know it’s kind of like a free sample. You might say and we’d give them a goose nesting structure ... in fact, we’ve given them something they can put out there and make a connection with wildlife to and a lot of time that the following year might lead to a call to [us for another deal]."

GS: "The other thing that really sort of kicked off the Partners program was the Fish and Wildlife Service involvement in the Blackfoot was we acquired that property along Highway 200, the Blackfoot waterfowl Production Area."

Spending Time in the Community
Starting is more than just encountering people. GS explained that by traveling to and from jobs on “that property along Highway 200” he and his partner had many opportunities to meet landowners in the community. He pointed out that this was possible because they had the time to spend in the community.

GS: "The thing that agencies don’t have because we see everything in terms of fiscal years and acres and dollars expended and upper management wants results. They don’t want to see you invest a year of your life or of a staff or staff hours and in a project and get to
that year and say, 'O.K. how many acres and how many dollars have you spent?' And you say, 'Haven't spent very much but I spent a lot of time in Trixi's bar and gotten to know the network of the community and developing trust. A lot of agencies are not willing to invest that kind of time on the front end of it. I'm not sure whether some agencies either can afford to do that because they've got such a huge workload and such limited staff.'

**Contacting**

Once some concept of agreement is in mind, people looking to deal begin meeting possible partners with the intent of reaching agreement. These possible partners could be individuals or groups.

RF:  "I take it on as an individual project, go down, meet with them, go to their club, go to their supper."

GS:  "We didn't know a lot of the players. Went over there it was kind of non-traditional property for us because, unique property, because it had river frontage ... called a meeting together in 19 it must of been fall of 89 we brought the Forest Service; Fish, Wildlife, and Parks; highway folks, Ducks Unlimited, I think we even had Trout Unlimited there and we said, Hey we're new landowners in the valley what would, like, how would...((that was the end of the statement))."

RF:  "We called them and talked to them, but best thing to do is meet them somewhere, you can't talk to them over the phone, best thing to do is look a man in the eye, you got to see if he's blinking or turning around when you're talking. No, we'd make a point of it ... call and say can you meet me for breakfast or something."

GS:  "We had to do a lot of work to identify the landowners..."

One landowner they knew, JS, said, "I tried to get them around to the people who would be willing to sit down and actually talk."

GN:  "We talked at length about the best ways to approach landowners. It's a salesman's you know you really out selling a product so do you write letters? do telephone calls? do you knock on doors? do you inconvenience the landowners during haying season while
he's calving I mean all these things come up and there's right and wrong ways to do them and our gut reaction has been that a telephone call, you know, like a vacuum cleaner salesman calling you at night, 'Ay, I'm with the Fish and Wildlife Service, we want to restore a wetland out there are you interested?' Click. 'No I'm not interested.' So that's out of the question. A letter, we only get about on the average probably 10 -15% response back on letters sent out on the past."

Contact was easy for conservationists who spent enough time in the community that local people could get in touch with them.

JS: "I went through [LL] and got ahold of [GS], I think is how we did it. I can't remember for sure ... They'd been out looking at things before, been up and down the streams there."

Talking/Listening

When these people say they are talking, they mean they are "in the talking stage", as in:

"we were already in the talking stage by then"; or,

"It's surprising what happens when they get together and start talking."

In the talking stage of an agreement, these people are sharing ideas about what they might do together, but they are not yet proposing to act. They are learning and beginning to care about others' interests or activities and sometimes they are identifying conflicts between others' interests or activities and their own. There is also talking that doesn't pertain to the interests in the deal; this might be called small-talk, which also is a preface to action. Talking is a tool for venting and compromise.

Listening is more than just being present while someone was talking. It means understanding and respecting another person's interests. Listening is the opposite of having made up one's mind:

GS: "I think everybody listened somewhat, but [one group] said they had their big plan no matter what was said by who at that meeting."

WS: "[GS] came in with his eyes and his mind open, and listened. He didn't come in and say, 'This is your problem, you've got to do this, this, and this.'

"He made you feel like you were worth something. Whether you were having a bad day"
or a bad year."

JS: "They ((GS and GN)) found out it was a whole lot better to be open to our concerns and then maybe come in with their concerns afterwards."

Talking/Listening is the biggest part of agreement, so here is a summary of the sub-headings:

1. Small-talk
2. Privacy
3. Sharing an idea of something to do together, not an offer
4. A way of learning and caring
5. A way of venting and resolving misunderstandings
6. Holding Your Tongue

**Small-talk**

Before sharing ideas about what could be done, or even venting or learning about another's interests, the talking stage is about small-talk.

GS: "Hey, how are things going, you know, the weather over here blah, blah, blah. I think that helps a lot setting the stage to begin to talk about getting to where you want to go. I think if you go in and you immediately, boom, go to talking to the guy about restoring a wetland or something you're going to fail with that approach, that's just been my experience and then [GN] would tell you the same thing."

Small talk seems easy enough, but one must avoid "simple things that could turn landowners off" (GN).

GN: "You try to start off a conversation with a landowner talking about crops, weather, talking about his cows and what not, but you could mess up. Something like, drive up and say, 'Your cows are looking good this year.' I don't know what a good cow looks like from a bad cow and you know by saying, you know, 'your cows are looking good this year' when maybe they're looking bad to him and you, or crops, you know, same way, if you don't know what you're talking about... I've seen more agency people shoot themselves in the foot by trying to buffalo their way through talking about... trying to connect with the landowner on ag-related stuff if they
don't know what they're talking about."

G: "So how do you do it?"

GN: "You say, 'How are your crops doing this year?'

"They say, 'Oh, boy it's a great year!'

"You say, 'Yeah, yeah, things are looking good.'

You don't have to know a lot about it, but you just don't stick your foot in your mouth right off the start. I've got a gut reaction on how the weather's been but I don't -- from a wildlife perspective -- but I'm not sure what that means for his hay crops."

A genuine concern for the other person's situation makes for good small-talk.

GS: "I always try to ask about you know, personal, some of that stuff sounds corny and kooky but you'd be amazed at people's human behavior, you know, like ... the other day ... I think the first half an hour we talked about calving. And talked about problems with scours and it's a wet spring. That kind of stuff made him feel a lot more at ease with me he felt like I was, you know, I had a genuine concern about his way of life and he's having a tough year, he's lost 80 calves this year to scours and so those kind of things."

Privacy

Some landowners and conservationists made a clear point that the talking phase should be kept quiet.

BP: "People don't like open house."

One person explained that he parks his unmarked truck out of sight from neighbors so the landowner need not worry about them becoming curious about what he or she is considering doing on the land.

Sharing an idea of something to do together, not an offer

RF: "I got talking with other companies, and we all talk back and forth, and I said we've owned this land for hundred years and have never cut and run, so we have a good story to tell. We're already doing a good job, but getting no credit for it ... so I told them what we're doing and what we want to do and how we're going to protect this and do these things.

"[BC] and I talked it over some beers and he said, yeah, we need to do something along those lines."
Similar talk goes on with small landowners in one-on-one deals.

GN: "We got on the ranch that way and then we just got visiting about different things we could do, things you know. I mentioned things I would like to find a way to fix some of these things and they came up with ideas and we were just back and forth then."

A way of learning and caring

Talking helps these people find things out: the way each other feels, and also what their interests are and what they are doing.

RF: "If we're not talking then we don't know what each other is doing and we don't care. But if we get together and can say you almost ruined us last year, then we get some free flow of information and get a lot of people involved."

KH: "The group has been a process of getting things out on the table—[it's been] a coordination mechanism of all the entities' duties, inclinations, and responsibilities, [so these] are all available at once—it makes them more evident.

"There's a lot of caution people use at those meetings; they are careful about what they expose regarding what they'll support: it's a negotiation, it's frustrating at one level, but it's understandable."

GS: "We found out nobody's talking, everybody's too busy. Things don't happen until we stop long enough to go out and talk with all of our state fish and game agencies and other publics. Otherwise, there's lots of problems [from] just not spending a lot of time on the front end, talking about what works."

For example.

GW: "We have irrigation dams and we're finding if we release the water at the bottom of the dam instead of letting it spill over the top, we're releasing colder water, which helps the salmon. Now if someone came along and said don't do anything in this stretch of the river because it's salmon habitat, we wouldn't know what we were doing wrong, but if we did we would stop it or maybe do something to help. So these lines of communication, a lot of little things, but added up it helps the entire effort."
A way of venting and resolving misunderstandings

In talking, one biologist was able to clarify several concerns of a landowner that had nothing to do with the possible agreement.

GN: "I was able to say, well, that's not really true we do pay a set amount [of property tax]."

"Well what about weeds? You guys aren't going to control your weeds."

"No. We are going to control the weeds over there."

"Well, what about fire? I'm worried about fire."

"Well, we plan to do some limited haying, we plan to do some limited grazing.

"So those things helped him feel more comfortable. But you get through the first half hour, that's all you do, you listen to him and kinda see his point of view."

Holding Your Tongue

Part of succeeding in Talking is holding your tongue. Sometimes this requires biting your tongue.

WS: "Sometimes it tests your patience a little. The one that gets me every time ... when they say you've got to get back to nature. If I hear anyone say that I know I'm in deep shit and I better keep my mouth shut."

Other times, holding your tongue is just a matter of patience.

GN: "When the rancher takes me on a drive through his place there's always things that I'm seeing. You know, I'm seeing drained wetlands I'm seeing over grazed riparian areas, weeds, I mean, poor timber management. I mean, every property whether its private or public has got problems, but what I don't do is come off right away and say, 'Geez, there's a drained wetland right there, boy, we should move these corrals.'

"I just allow him to show me his property and get off his chest what he wants to show me, something he's been thinking about: putting in a pond or offset water or whatever."

This last point, about patience and holding your tongue, was described as critical not only for avoiding arguments, but also for setting up the Offering stage.

Offering

Offering is the stage where negotiating begins. A person who reviewed an earlier draft of this paper, disagreed that any negotiation takes place in the Talking/Listening stage. From his perspective, negotiation begins when specific commitments to projects are offered.
Wait for the Right Time

The time for moving to the offering stage is when the talking is done, which depends on the person you are talking with and your ability to read him or her.

SM: "[we’re at the] end of the formative process stage, entering the 'doing' stage."

GN: "Sometimes it might be two years down the road before you say, 'Y'know I...'"

"You get to that thing you saw on the first trip. 'I noticed that drained wetland back there, what do you think about restoring it?"

"And if you bring it up right away ... like a conservation easement ... if that's the first thing out of your mouth, pack your bags because he's going to send you."

JS: "You've got to sit back and look at the people, and ease into certain ones. There are some you can just go up to and talk to and you're fine, other ones, they're going to [be skeptical]. It works that way."

GS: "I think it varies with each landowner. They all have their different signals, but the thing is you got to learn to get to know them, to know what their signals are, to feel a comfort level, to have them feel comfortable with you. And what I hope is that – when I know I'm in with the landowners – when he sees me as [GS] and not as [my organization] and when that point happens then I think you can move on to those issues.

"Sometimes that's the first time you sit down at the table and sometimes its ... not for a long time. I've ... sat down for the first time and within the first day and visited with people about conservation easements and come away from that meeting feeling like, 'Yep, we'll put an easement on this place.' And other people you know and some of them we've been waiting for three, for four years."

"They develop more and more of a comfort level with [us] and that generally leads to an opportunity to bring them to a discussion of maintain a rural lifestyle, you know, the family rancher, [and] you have discussions about easements."

Appeal to a Person's Interests

Offers appeal to the person's interests, for example, a landowner's management objectives.

GN: "I told him, I said, 'Hey, these are the kind of things you can do to improve your
operation. Now, what can we do to help you? It was just a trade-off... to help do some
duck habitat, or whatever, wetland enhancement and yet we might gain off-site watering,
some cross-fencing, grazing. You tell them what you wanted and it was seeing if you
could get it done.
"Obviously, they saw just the ... they see the opportunities, from there on, it was sort of
saying, 'Well what can we do to help you out?''
"Then you are able to say, 'Well, what are your goals long-term? What do you want to
see with your ranch?' That then generally, in the Blackfoot, at least, [leads to]
conservation easements."

Part of a successful offer is ability to customize it.
JS: "Now [one group] is coming in with their new grazing things ... it's a wreck. They got
their set lines from headquarters or someplace, wherever they did them, and it's generic
for everywhere in the world and you can't do that, it just doesn't work. They're coming
out with that and it just isn't working at all. They are setting themselves back ten years."

A Generic Offer at First
Some people start with a general idea of what agreements could be reached.
RF: "((reading)) 'SHARE is open to people committed to an ethical approach to land
stewardship to consider all forest and natural resources including anadromous and
resident species of fish.'
"We were trying to keep anyone from saying, 'Oh I can't do that because it flies in the
face of...((sentence trails off)).'
"It was a generic approach at first, but we knew we could get narrowed in later. We
were criticized by several people for having a wide-brush approach, and we did, because
if you came in and saw this narrow little space you had to crawl through, that
discourages people and they ride off."

Gathering Information
People bring science into agreement all throughout the process, but it is during the
offering stage when science plays the biggest role. It can hold up the agreement process.
TF: "The delay right now has been to wait for the Scientific Group [to answer] What do we
mean by recovery? And how do we get there?"
SS: "The information will become truth for further talks in the Restoration Team."

Gathering information is hard because: (1) people have "saved the sticky issues for last"; (2) "nobody has time or money to be sure" of all decisions; and, (3) "science is not pure and absolute, players interpret science differently and derive standards and guidelines differently."

The upshot of this situation was summarized by SM:

SM: "It's our job to fit the science into the politics. We'll either have to deal with these issues or come out and say that we're not going to."

**Referrals**

The final aspect of offering is knowing when interests do not match.

GN: "You gotta know what your program is, what all the programs [offered by others] are, when you sit down with the landowner. You might say, 'Well I'm interested in waterfowl habitat.'

"He may not have any wetlands to restore or be interested but he might be interested in the grazing system or moving his corral so you have to know, well, you know, 'Maybe we can't help you with this but maybe Fish, Wildlife, and Parks has got a program.' 'Well this is more orientated toward fisheries...'

"But if you're going to refer somebody, don't just give him the [phone] number, y'know, 'Here ya go,' and forget about him. Make the call, set up the meeting, pick the guy up, and go there together. Otherwise... (sentence trails off)"

**Other Concepts**

People raised other concepts that applied generally to reaching agreement.

**Ownership**

Ownership, also referred to as "buy-in," describes the sense among people working together that the plan resulting from their work is theirs, and, therefore, they will make it, use it, and care for it well.

GK: "It takes local knowledge. The more you localize, the more potential buy-in, the better the solution, and longer lasting."

**Accountability**

Related to ownership is the concept of accountability.
KH: “There’s a peer pressure thing ... if a player is blatantly resisting, it might actually make things worse for them ... you have to think hard about the long-term repercussions of your actions today.

“When everybody’s at the table, you don’t have many s.o.b.’s who will say, ‘This is my position and I’m sticking to it.’”

Lacking Resources

There was wide agreement that lack of resources — time, labor, materials, equipment, and money — is a fundamental limitation to agreement.

KM: “The limitation on strength of state-based institutions is finances, just like at the federal level ... ‘precluded’ is a workload analysis.”

This refers to the "warranted but precluded" decision by which U. S. Fish and Wildlife Service passed up its opportunity to take authority for bull trout and left responsibility with Montana.

GK: “Having the Restoration Team shows that the problem is bigger than any one interest. It allows us to pool resources.”

SS: “Now we’re approaching the hand-off to the watershed groups and field people [who] will be assigned the additional duty of sitting in on the watershed groups.”

Some responsibilities have been funded ("we took a lot of projects and pieced together enough funding"), but many have been added to "full time" responsibilities. Not only are the "field people" dealing with "additional duty," but the Restoration Team members themselves have squeezed these meetings into their schedules. The same problem has been recognized for members of the public who will be asked to join watershed groups, or who are trying to find time to participate in the process. These people, it was noted, "have jobs too" and may already be involved in other citizen advisory groups and, therefore, "may be burnt out."

Leadership

Leadership was generally described as the ability and willingness among participants to "commit [their group’s] interests or policy to matters affecting bull trout." Often, the Governor’s leadership was recognized: "... Governor [Racicot] is an outstanding individual. He is willing to
deal with conflict and is interested in the gamut of resources." "With this governor, Montana has a strong record of these kinds of processes." Several members listed a governor's commitment as necessary for success in any state-based effort, and especially because this leadership would draw the state wildlife agency into a "willingness to budget for it" and to maintain the necessary "viewpoint, number of people, and the qualifications" to succeed. Less often than the need for gubernatorial leadership, but also present, was the view that the Restoration Team members must lead. One supervisor considered it his "job to bring field people in on the goal."

**Alternatives**

People considering agreement are influenced by their options for getting what they want.

TF: "[This process is] another path. The recovery plan [written by the group] may turn out as good as what the Fish and Wildlife Service might have done, but I'm not sure we have the tools [to implement it] that the Fish and Wildlife Service might. There are tools we don't have because there is no [Endangered Species Act]."

The tools TF referred to are regulations that compel people to follow the recovery plan. Another person considered those regulatory tools as a hindrance and an encouragement to reach agreement instead.

GK: "What makes these solutions possible is that they're non-regulatory. Federal law creates authority that casts a chilling effect. If people can agree to a middle course, then each entity can advance at least part of their agenda ... you can waste your time in the legislature, or you can collaborate."

**Momentum**

People described momentum as if it were inertia: the tendency for something at rest to stay put, or the tendency of something moving to keep moving.

KH: "Once a process gets going, the feeling develops that you don't want to fail. Once momentum is going, you don't want to see it fail."

PF: "A certain amount of progress is necessary to maintain credibility."

LP: "Fear [of the Endangered Species Act]— that's what's driving the bull trout case."
External forces

People on the Bull Trout Restoration Team described three main external forces: (1) possibility of lawsuits challenging the process; (2) effect of publicity on the discussion; and, (3) frustration from the Governor's office. At a recent the Restoration Team meeting, a citizen brought a video- and sound-recording team. One the Restoration Team member explained that "some people are concerned about the trustworthiness of this process." "What you saw here today probably was preparation for a lawsuit." Members were not equally concerned about lawsuits, some saw them as unavoidable possibilities, others expected that they would "reel from that" and measured their words accordingly.

One member described routine public attendance at meetings as also affecting the process: "When it's a public forum, it's uncomfortable and stifles [discussion] somewhat... it's the cost of public accountability." On the other hand, some members see greater publicity as an important objective of the process – they want to "get bull trout in the news". This illustrates a fundamental challenge in balancing local interest and national interest. Supposedly, local interests will be represented in watershed groups. The national interest, however, is supposed to be represented by the agencies. They do this through the National Environmental Policy Act (NEPA), but no one yet knows where the NEPA process fits in the Restoration Team process.

Opposing the inhibiting effect of potential legal challenges and routine public scrutiny is pressure for faster results coming from "the Governor's office [which is] expressing some frustration with the slowness." This factor was described as if "the Governor is saying, 'I've held back the feds [by convening the Restoration Team], but we got to get something done.'"

Conclusion

The process of agreement is not a set of steps to be followed as in a recipe.

GK: "Anyone looking for a cook-book will be disappointed ... this is amorphous."

Nevertheless, there are conditions and components necessary for progress. A community needs trust and relationships among its members before those people begin talking about their interests and the possibilities for agreement. A certain amount of starting is required before contacts are made. Then, as I heard plainly, a certain amount of listening and talking must go one before "you can move on." "Sometimes that's the first time you sit down at the table and sometimes its ... not for a long time."

Agreement is a complex phenomenon, but it can be likened to a pyramid. Leopold (1939)
proposed a pyramid as a model of ecological relationships and I believe the same model fits agreement by analogy. The biotic pyramid consists of layers, each a little smaller than the one below it, that build up to a cap (Fig. 3). "Each successive layer depends on those below for food and often for other services, and each in turn furnishes food and services to those above" (Leopold 1939:268). In agreement, the layers are: starting, contacting, listening/talking, offering, and then the agreement itself.

Though the pyramid model captures most of the agreement process I observed, it cannot account for some details on which landowners and conservationists in my study disagreed. These details are:

1. Buying land may or may not be a good way to enter a community and be available. Some people spoke of this as helping, others spoke of it as a deadly mistake for public agencies or non-profit groups, with whom it fuels fears of public take-over of private land.

2. "Progressive thinking" seems to mean willingness to try new ways of managing land and dealing with landowners. It could mean, however, acceptable thinking.

3. Agreement. My interviews focused on reaching agreement, but the act of agreement itself probably has its own meaning. I hope that in the process of reaching agreement, a landowner and conservationist learn or make whatever rules are necessary for the act of agreement itself.

Finally, because of these details, and because this description of agreement is not designed to be generalizable to every community, conservationists and landowners should use this model only as a first idea of how to reach agreement in their communities.
Fig. 3. Pyramid models: (A) The biotic view of land (Leopold 1939); (B) The social view of agreement.
Chapter Four
Types of Agreements and Their Economic Details

TYPES OF AGREEMENTS ................................................................. 48
Registry Agreements ................................................................. 50
Rewards and Compensation .................................................. 50
Lease ......................................................................................... 51
Cost-shares ............................................................................. 53
Easement and Estate Management ............................................ 54
Franchise .................................................................................. 55
Private Management .................................................................... 55
Exemptions ................................................................................ 55
Miscellany: Working Together and Voluntary Compliance ......... 56

Factors in the Typology ............................................................. 57
Complexity of Ownership ......................................................... 58
Types of Ownership ................................................................... 58
Elements of Exchange .............................................................. 59
Defining Attributes and Extents .................................................. 60

Economic Details of Agreement .................................................. 60
Schematic of Ownership ............................................................ 61
Report of Elements of Exchange ................................................. 61

Registry ...................................................................................... 62

Reward and Compensation ......................................................... 62
Lease .......................................................................................... 63
Cost-share .................................................................................. 67
Easement .................................................................................... 68
Franchise .................................................................................... 69
Private Management ................................................................. 70
Exemption ................................................................................... 71
Working Together and Voluntary Compliance: The Miscellany .. 73
Conclusion ................................................................................... 74
Although trusting relationships are necessary for voluntary agreement, people also need terms for their agreements. These economic details are difficult in conservation because land blends public and private ownerships. Some public interests are affected by how private landowners manage their land; therefore, the government protects those interests by regulating private land management. Normal, necessary, and legal uses of land can be stopped if these uses harm endangered species. On the other hand, as Lueck (1995) showed, private landowners can, in effect, own a public wildlife population if his or her property is large enough to encompass the range of the population. In this chapter, I show how landowners and conservationists have divided these values in the terms of their agreements.

This overlap was seen by the first conservationists. Theodore Roosevelt saw "game preservation" happening either by landed proprietors maintaining private reserves "with a sense of public spirit and due regard for the interests and feelings of others" or by the "far preferable and more democratic way ... by a system of public preserves" (quoted by Leopold 1933:18). The heart of the problem—the overlap in interests—was described by Leopold (1949:213): "When the private landowner is asked to perform some unprofitable act for the good of the community, he today assents only with outstretched palm. If the act costs him cash this is fair and proper, but when it costs only fore-thought, open-mindedness, or time, the issue is at least debatable."

Sorting out the overlapping interests in land is a problem of separating them so each party can benefit from the values they want. It is like the common parable of the orange: one person wants the rind as an ingredient in a cake, the other wants the fruit, so cutting the orange in half will not satisfy their interests, but peeling it will. In one of the cases in this study, a landowner needed to impound water for irrigation and release it back to a stream. Conservationists complained that water released over the dam was too warm for salmon in the stream. They resolved the problem by agreeing that the landowner would release water from under the dam, which would be cooler than water from over the top.

**Types of Agreements**

The Types of Agreements I describe vary in simplicity and legality, giving multiple views of how people are arranging their competing interests (Table 2). Below, I describe a set of example cases proceeding from the simplest ownership arrangement to more complex arrangements involving multiple people. Along the way I point out the differences between legally binding and non-binding agreements. In the next section, Factors in the Typology (page 57), I generalize the differences among the main types of agreement here into Types of Ownership (page 58) and Elements of Exchange (page 59).
Table 2. Main Types of Agreements.

- **Registry Agreement**: a handshake agreement between landowner and conservationist to protect or manage a feature of a private tract.

- **Reward and Compensation**: a conservation group pays a landowner when a predator dens or damages livestock on a private tract.

- **Lease**: a landowner sells near-complete ownership rights to his or her land to another “person” for a limited time.

- **Cost-share**: a public agency shares with a landowner the cost of a land management project.

- **Easement and Estate Management Agreements**: a landowner donates management rights to a conservation group, or otherwise lowers the value of his or her property, in exchange for tax relief.

- **Franchise**: a landowner buys near-complete ownership of wildlife from a state agency in exchange for limited access and management rights given to the state.

- **Private Management**: a private group or landowner receives limited rights to manage a species of wildlife, for example, by raising a captive population for release in the wild.

- **Exemptions**: the U. S. Fish and Wildlife Service exempts landowners and other private citizens from regulations designed to protect endangered and threatened species.

- **Working Together and Miscellany**: several instances of agreement take place among people who have gathered to reach consensus or collaborate on some set of rival interests. Land owners and managers sometimes alter their practices in accord with the group and other times will invest labor, money, equipment, and other resources in projects shared by other members of the group.

Except for Franchise, Estate Management Agreement, and Exemptions, the name of each type would be recognized by anyone involved with that type of agreement. I needed to apply the names for Franchise, Estate Management Agreement, and Exemptions because people in the field talked only about specific examples of these and did not have a name for the category. Also, I have left out of this list fee-simple purchase of land. Purchases are used to achieve conservation goals, but I focused this study on solutions to conservation problems that leave the private sector substantially involved.
These are the headings in my typology of agreement, below each one is a wide space for individuality. Instead of trying to specify the typology to that level, I present the factors by which agreements differ. First I review the headings, pointing out their differences, and concepts they feature, then I describe the coding scheme I used to define their differences. This scheme can be used to describe individual agreements.

**Registry Agreements**

The Nature Conservancy has a “Registry Program” to keep track of landowners who have registered the existence of a rare plant or other feature of the land that the landowner is protecting, maintaining, or developing (Hoose 1981). Each registry landowner has agreed with TNC, which may be more or less specifically defined in writing, to protect “highly significant natural features critical to the preservation of natural diversity,” or something to that effect. Normally, the agreement is consummated with some official recognition of the landowner in the form of a plaque, certificate, or sign for the property, and the agreement is maintained through subsequent attempts to remain in touch.

Notice that the Conservancy brokers this deal between its members (the customers) and the landowners (the suppliers). The brokering role of the conservation party to voluntary agreements is repeated in the following examples. The distinction is important because it highlights the fact that these agreements are ways to resolve problems of public goods; on the other hand, the distinction is not so important because the conservationist and the landowner are the parties who directly negotiate. Conservationists make their case to “customers” extensively, not intensively, by advertising and mailing.

“Registry” is the simplest agreement I found: two parties are involved and nothing is legally binding. No control of land is transferred in the initial agreement, but some costs incurred can be seen as part of establishing control through a future contract. TNC is aware that such agreements can improve prospects of securing binding legal agreements in the management of the land. Costs arise in delivering impressive plaques and signs and hiring effective negotiators to meet with landowners initially to establish the agreement and then subsequently to maintain the relationship.

**Rewards and Compensation**

In Montana, when a landowner’s property is either damaged by wolves or grizzly bears, the non-profit group Defenders of Wildlife will pay for the damage. Defenders also will pay a “reward” of $5,000 to landowners on whose property a wolf pair produces pups. Although Defenders represents its membership, who as I mentioned above are part of the agreement, think of this as another simple, two-party, non-binding agreement. Rewards and Compensation agreements involve at least two concepts that distinguish it from Registry Agreements: economic property rights, and reciprocity.

Economic property rights, unlike legal property rights, are the rights a person can actually protect, not the ones he or she is entitled to by law. The difference is between de facto and de jure rights. One noteworthy feature of Defenders’ deal is that he is buying something the land-
owner does not legally have to sell. It would be a violation of the Endangered Species Act for a landowner to disrupt the den of an endangered species, but it is within the landowner's ability to do so. Cheung (1970) distinguished property rights and economic property rights: the latter describes not what is legally owned, but what can be controlled, or "one's ability to exercise choices over a good" (Allen 1991:3). Basically, your economic property right is defined by your ability to deter thieves.

*Defenders* calls its programs rewards and compensations, and there is no binding legal requirement that the landowners do anything in return, but they hope they have bought some tolerance. "We just have to believe that ranchers will think, 'Geez, wolves aren't so bad to have around.'"

Reciprocity refers to what Coase (1960) called the reciprocal nature of problems of social cost. Moral considerations aside, Coase argued, a polluter could pay neighbors for the right to clean air, or the neighbors could pay the polluter for the right to pollute. *Defenders* recognizes that the payments could go either way and, because landowners have economic property rights to wolves, *Defenders* tries to buy these economic property rights to kill wolves.

Rewards and Compensation are more complex also because more checking is required to be sure that all payments are deserving and so, as a representative of *Defenders* says, "we can protect the integrity of the fund." In the case of a reward, *Defenders* pays a rancher $5,000 after the litter reaches approximately 10 months of age. Documentation of the exchange is accomplished by a visit to the den-area by *Defenders* personnel. *Defenders*, in turn, reports to its contributors through its various publications.

**Lease**

A lease is a formalized version of the agreements already described; leases show how these simple agreements can become more complex. A Registry Agreement resembles the Conservation Reserve Program and Adopt-A-Pothole Programs I describe below, and *Defenders' reward program resembles the lease a horse-owner would pay for stabling his or her animal on a neighbor's land (though I will not describe those details). The final example is of a hunting lease, which is a thought-provoking model for endangered species conservation.

**Conservation Reserve**

The Conservation Reserve Program gives the Department of Agriculture the money to lease access and management rights from private landowners. For monthly lease payments, the government specifies the cover crop that will retire the cropland. The attribute of land traded is the cropland, by which I refer to the capacity of the land to produce a crop. Between the Department of Agriculture and the taxpayers it represents, and whose money it spends, the attribute of land traded is the stability of the soil, or the condition of land opposite of erodibility.

Part of the greater complexity of this lease is in the role of a government agency. American citizens expressed a demand for stable soil through the policy process resulting in the Food Security Act of 1985 and the Food, Agriculture, Conservation, and Trade Act of 1990. These laws established the Conservation Reserve Program as a way for the Department of Agriculture to
stabilize soil for taxpayers. The Department satisfies taxpayers by leasing the use of arable land from farmers so that the land can be planted in such a way as to eliminate erosion. Separation between the attribute of land sought by conservationists (stability) and the attribute of land traded with a landowner (cropland), is a common fact of voluntary agreements for conservation.

**Adopt-a-Pothole**

Adopt-a-Pothole is a similar program run by a private, non-profit conservation group, the Delta Waterfowl Foundation. Delta leases private property from landowners who restore or maintain upland vegetation surrounding ponds (i.e., potholes) in the prairie pothole region of southern Alberta and the north-central United States. The customers whom Delta represents are contributors who intend to hunt these species during the southward migration. Higher nesting success is assumed to result from promoting specified nesting habitat.

Delta demonstrates its service to contributors (production of ducks) to a greater extent than did the Department of Agriculture in demonstrating conservation of soil. Instead of assuming that the use of the land creates the desired product, Delta defines the existence of ducks by a direct measure. Surveys of duck production, though not an exact measurement, define the attribute directly. In fact, Delta uses this fact as a primary selling point for their program. The promotional brochure, "Adopt A Pothole and together we can bring back the ducks" (Delta 1993a), boasts, "Finally. A proven action program to fill the flyways" (emphasis in original). Whereas the basis for the proof could be debated by any scientist, the argument is that desired results are being measured directly.

The method of exchange is by reporting the results of surveys of waterfowl nests and introducing landowners to contributors (Delta 1993b). Individuals who contribute to the program receive an aerial photograph of a wetland they have "adopted" and receive periodic reports on the status of waterfowl production on the prairies. These reports admit that "waterfowl surveying in not an exact science" (Delta 1993b), but list estimates of duckling production for a given acreage. The Adopt-A-Pothole report describes the goals, background, implementation, budget, future plans, and data on costs and acres covered by contract. A single-page report, the Waterfowl Report, presents on the first side a verbal summary of recent events pertinent to the program. On the back side, tables list estimates of duckling production and totals of acres included in the program. The Adopt-A-Pothole report is distributed semi-annually, and the waterfowl report quarterly.

As in the Conservation Reserve contract, the conservationist pays the landowner for the right to direct the cultivation of land. Delta pays a higher rate to landowners whose land needs replanting instead of simply letting existing vegetation grow. The managed attribute of land, cropland, is defined to the same extent as in Conservation Reserve: that approved vegetation is established and maintained acceptably. At this level of definition, Delta distinguishes between land that must be planted and land only to be left undeveloped. A higher rental rate is offered for cropland seeded to grass ($30/acre) than for native, existing grassland ($7/acre). The higher rate is supposed to cover the cost of seeding, which makes sense, but what if a higher rate was paid for native grassland to create an incentive to protect it?
The method and timing of completing the exchange are defined similarly to Conservation Reserve: site visits to determine compliance and 5-year contracts, 50% of annual payment by 1 May, and the balance on 1 November.

**Hunting Leases**

*Hunting leases* are voluntarily agreements designed to capture the value of an even less tangible feature of land than is population viability (e.g., Delta, Defenders), soil stability (e.g., Conservation Reserve), or biodiversity (e.g., Conservancy). In each of those previous cases, the customer wanted something that could conceivably be measured with the right equipment, skill, and money. In this case, the customer is after an enjoyable hunting experience: something of which only he or she can be the judge.

The consulting team of Crawford and Bourland arranges hunting leases. In these contracts, the landowner sells experiences by selling the opportunity to have the experience. The opportunity is defined by access, management, and exclusion. A hunter or a hunting club receives “all rights of ingress and egress to and from the Leased Premises” to the extent that the club members and their guests hunt and engage only in related activities and that they remain in the good graces of the property owner (the contract defines these points with extensive text).

The club also gets the right to manage the land to enhance wildlife populations. Club members can plant food plants and install feeders “where appropriate” and, again, within hunting regulations.

Finally, the club can exclude other hunters — and only other hunters — from the property. The “LESSOR, its employees, licensees, agents and contractors reserves and shall have the unrestricted right of ingress and egress from the LEASED PREMISES.”

**Endangered Species Leases**

*Endangered Species Leases* have been agreed to in one case that I described. The Texas Parks and Wildlife Department has entered into leases with landowners as a means toward recovering the endangered Attwater's Prairie Chicken. These agreements give the state access to the property for “legitimate purposes” and to limit the number of cows on the property. Other terms resemble those of the hunting lease.

A notable difference among these agreements is that some identify directly the values of interest to the parties, and others do not. The number of cows on a tract may relate closely to the likelihood that prairie chickens will persist, or they may not. In Conservation Reserve, cover types probably relate very well to reduction in sediment. A hunting lease cannot spell out the quality of the experience, but by giving the hunters near-complete ownership of the land, they obtain a lot of control over the circumstances, which influence the quality of the experience. The same strategy applies to endangered species leases.

**Cost-shares**

When landowners and conservationists collaborate to restore a stream channel, as they have done several times in the Blackfoot Valley of western Montana, the agreement transpires in
a relatively short time. In what is titled a "wildlife extension agreement," terms describe what the project will accomplish, how much money, equipment, and labor will be supplied by each party, and also what land management will occur after the project is complete.

These agreements rely on the collaboration of the landowner and conservationist to gather the labor and capital, and also to measure the results. The two plan and carry out the project together, allowing for constant exchange of ideas and negotiation of values. In the end, they know how well the project meets their interests because they had the chance throughout to direct it, and they have shared management rights to the property insofar as the project improves it.

**Easement and Estate Management**

Conservation easements are a popular and well-known means of reaching voluntary agreement with a landowner for conservation purposes. The easement contract is more complex than previous examples of agreements as it includes the landowner, a conservation group, and the federal government. Easements also are a common part of estate management strategies, which include several other examples of agreement. The complexity of these agreements arises in tax law.

An easement enables a conservationist to buy management rights to only those parts of a tract that directly influence the conservation value of the property. Those parts of the tract are described as the "ecological and esthetic features" and managing them typically means controlling the building of homes or other buildings, and developing rangeland and timberland. The Conservancy and smaller land trusts use easements often, perhaps because it is the best tool to protect assemblages, or communities, of living and non-living resources. The mission of the Conservancy is "to preserve plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive" (TNC: back cover). In a word, the product of the Conservancy operations is biodiversity (i.e., variety in life forms and life processes).

The parties joining the Conservancy in contracts are its supporters and the private owners of land useful for maintaining or restoring biodiversity. Supporters is a general term encompassing contributors to the Conservancy and government agencies who purchase land from the Conservancy when it opts to buy property rather than obtain an easement from the original owner.

The extent to which biodiversity and development rights are traded varies widely in the Conservancy transactions. Biodiversity in a particular transaction could be a single population or an area of habitat. Development rights, ranging from specific modifications such as mowing to packages of rights, could be secured by promise, conservation easement, or fee-title purchase of the land. Combinations of these three ways of controlling development rights with various definitions of biodiversity generate many individual arrangements. Descriptions of these arrangements are supplied to supporters in magazines and newsletters as evidence of biodiversity protection.

Estate management agreements do not all pertain directly to the conservation value of land, but they are marketed by land trusts as strategies that keep small private landowning
families in possession of their rural land. "Cows not Condos!" is the rallying cry behind this idea, as one bumper sticker reads. There are a number of publications that describe these, including Preserving Family Lands (Small 1992) and Conservation Options: a landowner’s guide (Alliance 1993).

**Franchise**

I named this category myself because I could not find a name for it used by the people who have reached this kind of agreement. Professional conservationists, including one of my colleagues (Arha 1997), call them Private Land/Public Wildlife programs. The name is apt, and introduces some of the complexity, but it is, basically, a franchise agreement. Franchise is the right to market a product or service, often exclusive for a specified area, as granted by a manufacturer or company. Consider state fish and wildlife agencies as manufacturers in the business of game wildlife. To hunt, a hunter must buy a right from the agency in the form of a hunting tag. Franchise agreements enable a landowner to purchase the tag-selling operation from the agency under limitations. This is analogous to a restaurateur buying the menu, decor, name, logo, etc., from a national chain like Red Lobster and setting up a business of his or her own.

**Private Management**

Under some conditions and limitations, private landowners and other private persons can receive rights to manage wildlife. In three examples I described, two involved private groups raising endangered wildlife in captivity, and one company that assumed management of a rare fish found on company lands. The difference between Private Management and Franchise is debatable; I distinguish the two because access and exclusion in Private Management are incidental to the intentional transfer of management rights. Also, the model of Private Management for endangered species would not always have a retail opportunity. An agency could use this model to contract with private landowners to do the same job an agency would do on public land. In this case, Private Management would be a private delivery of a public service, which differs from Franchise.

**Exemptions**

Exemptions are pseudo-voluntary agreements in which a regulation is relaxed in exchange for conservation practiced by the landowner. This is the jumping-off point from the old model of conservation to the new one. Regulation is the involuntary alternative to agreement. Habitat Conservation Plans, as described by endangered species regulations (50 CFR17.22(b)(1)), can win for a landowner a permits for "incidental take" of a species when their otherwise lawful activity would result in a taking of a threatened or endangered species. Another example is the provision in the Endangered Species Act §10 for special rules covering the taking of animals returned to their historic range. These "non-essential/experimental" populations can be protected with regulations tailored to the species and the reintroduction situation. The North American wolves, the red and the grey, both have been reintroduced under these provisions. The grizzly bear is proposed for reintroduction with such a rule (USDI 1997), and a number of less-controversial species have also been managed this way.
The Fish and Wildlife Service and the National Marine Fisheries Service are the only legal entities with authority to intervene physically with endangered species or to grant permits for this authority. Most of the same manipulation of endangered animals conducted by Fish and Wildlife personnel in the course of recovering the species would constitute harm if executed by unauthorized people. This situation defines a right of access to endangered species. Personnel of the U.S. Fish and Wildlife Service Red Wolf Recovery Program used the Endangered Species Act to transfer this right of access, under limited conditions, to hunters and trappers in the area of a reintroduction project in coastal North Carolina.

When planning the second attempted mainland reintroduction of red wolves (eventually, it was the first successful attempt), Red Wolf Program personnel concentrated their efforts on engendering support for the project (Moore and Smith 1991, Schildwachter 1994). Their efforts identified access to traditional hunting and trapping lands by local citizens as an issue of major concern in the community. Requiring cooperation of local citizens and facing commitment to the American public as the customer of recovery efforts, Red Wolf Program personnel decided that permitting continued hunting and trapping in the area of the reintroduction was the best way to proceed with the project. Special, less-restrictive prohibitions on human activities in the project area were written under authority of the Endangered Species Act that forgave incidental harm to red wolves when the incident was reported (Parker and Phillips 1991).

The experimental status proscribed by the special regulations transferred from the Red Wolf Program to recreationists in the area the legal right to trap or shoot reintroduced red wolves accidentally. The attribute is access to the animals, defined to the extent that access is taken incidentally in the judgement of the Red Wolf Program, and is reported immediately. The exchange occurs upon the report of a hunter, trapper, or motorist who incidentally traps, injures or kills a red wolf.

**Miscellany: working together and voluntary compliance**

Multi-party, or umbrella, groups seem to be rising in popularity. They are enough of a presence that Sierra Club President Mike McCloskey has publicized his concern about them (McCloskey 1996). Sometimes these work collaboratively, as the Black Bear Conservation Committee has, to develop a restoration plan and work toward a common objective. Other cases, like Project SHARE, work more cooperatively, finding opportunities to help one another. The variety of purposes for which these groups form is so wide that a typology focused only on groups is possible. The points about working together that are relevant to endangered species conservation by voluntary agreement are: groups create rules for agreement, groups distribute costs, and groups struggle to decide who belongs.

**Rules of Agreement**

The most basic transaction, perhaps buying food, is defined by the currency, price tags, check-out counters, and receipts among other things. The agreement reached by a customer and a grocer when the customer brings a loaf of bread to the counter is so clearly defined that they need not speak. When they do speak, the talk is limited to polite exchange of good wishes. Compared with this example, an agreement on conserving wildlife has no rules at all. Wildlife on
private land are not always visible, and the real element of interest, the chance the wildlife will persist, is invisible. There is no easy way to measure either the presence of wildlife or the likelihood it will persist, and there are no standard times or places to pay a landowner for promoting it. This lack of rules promotes a lot of talk. In Chapter 4, I describe this talk in detail; for now, my point is only that groups "working together" talk to establish rules of agreement.

Distributing Cost

In Maine, the members of Project SHARE discovered that several of them had valuable parts to a conservation project and, working together, could piece them together. In the case of building a fish ladder where an impassible dam stood, one member knew a cement-contractor, another member had the design for the ladder, the group raised money for concrete and wood, and another member had volunteers who could build it. Together, they put together the equipment, supplies, labor, and expertise and shared the cost.

Deciding Who Belongs

Deciding who belongs is what distinguishes collaboration from consensus in the mind of Matt McKinney, director of the Montana Consensus Council. He told me in person, and has published, his view that unless everyone with an interest in the discussion is involved, you are collaborating. When all interested parties are present and they agree, then you have consensus. The people I spoke to who work in groups noted that some people are "extreme" and will attend meetings only to prevent agreement. To proceed, these people may need to be denied membership in the agreement group.

Factors in the Typology

The main types of agreement just described are distinguished by their prominent features: a handshake agreement without legal bond, a payment for damage not legally required, a donation of development rights, and so on. Details for each type, however, more fully describe the structure of these agreements and the possibilities for combining and interchanging their parts to create new agreements. Clues to these details are the brokering role played by the conservation interest in each type, and the differences between what is sought after and what is paid for, and some other elements. Economic scholarship has proposed some description and explanation for these clues and I apply that work here. On the basis of transaction-cost economics, I have described agreements in terms of Complexity of Ownership, Types of Ownership, and Elements of Exchange.

The basis of this comparative analysis is transaction-cost economics, which compares the ways exchanges are arranged according to the cost of establishing and protecting property rights. Theoretically, people will always settle on the transactions of least cost. Typically, a transaction cost analysis will compare the size of transaction costs among several alternative arrangements of the same transaction. That analysis could follow mine; here, I stopped at defining the alternative arrangements already used by which landowners agree to perform some unprofitable act of conservation for the public.
Schlager and Ostrom (1992) described how levels of ownership rights compose complete ownership and these can be divided and separated. Allen (1991) described the elements of transactions, and Cheung (1970) distinguished between *de facto* and *de jure* rights of ownership. Combining these concepts, I have drawn the structure of Market Conservation. I also looked for the meaning of Market Conservation and found that it is centrally about interests in land and that in the cases I examined closely, a process for reaching agreement was evident. This process leads from the first contact between a conservationist and a landowner to the completion of a deal and living with it.

**Complexity of Ownership**

Lueck (1995) showed that ownership of wildlife mixes ownership of land, a private good, with ownership of wildlife, a mainly public good, to produce situations more complex than the simple private-land/public-wildlife dichotomy. Many cases of local, voluntary, and informal agreement are documented for ocean fisheries. On land, an extra element of complexity is added by landownership.

**Types of Ownership**

Ownership often is associated with the word “interest.” One definition of “interest” is, “A right or claim to something.” This word figures prominently in what people say about agreement, as I will describe more fully in the next section. If an interest is a right or claim to something, then full interest should be complete right or claim. A hunter has some right to game wildlife, but the wildlife, we say, is publicly owned. The holder of a conservation easement has claim to access and development rights on another person’s land. There should be a way to describe stages of ownership leading from none to full. Schlager and Ostrom (1992) proposed such a scheme, calling full owners “owner”, and lesser owners proprietors, managers, and users, in descending order (Table 3).

The rights entailed by ownership categories are as follows.

**Access:** the right to enter a defined physical property. I modified this definition so access to non-land properties could be coded. For example, a hunter buys from a state agency the right to “access” a deer by killing it and taking it home, or, as it often is described in regulations, “reducing it to possession.” In order to hunt, the hunter also needs access to gamelands. This distinction is elaborated below.

**Withdrawal:** The right to obtain the “products” of a resource (e.g., catch fish, appropriate water, etc.). Schlager and Ostrom (1992), writing about fisheries classified fish as a product of the area of water defined as the fishery. I have separated the fish as a separate good.

**Management:** The rights to (1) regulate internal use patterns and (2) improve the resource (or otherwise change it).

**Exclusion:** The right to determine who will have an access right, and how that right may be transferred.

**Alienation:** The right to sell or lease either Management or Exclusion rights.
This explains how the hunter claims ownership of wildlife, and how the easement holder claims ownership of development rights; later, I will apply it to all the cases. A person becomes a hunter (in the legal sense) when he or she buys a hunting license. This license is a limited property right to chase, kill, and take home game wildlife. Embodied in the license are the regulations that define which wildlife are game, which individuals can be taken, what equipment and techniques may be used in the hunt. The license gives the hunter the right of "access and withdrawal" to wildlife. Most conservation easements also convey access and withdrawal rights, but their purpose is to transfer the right of changing the property to someone who will not exercise that right. Armed with this right to "regulate internal use patterns," the holder of the easement is a manager.

Table 3. Ownership categories defined by levels of ownership rights (Schlager and Ostrom 1992).

<table>
<thead>
<tr>
<th>Access and withdrawal</th>
<th>Owner</th>
<th>Proprietor</th>
<th>Manager</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Management</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Exclusion</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alienation</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

**Elements of Exchange**

In transferring different ownership rights, agreements often are very specific about such questions as who, what, where, when, and how these rights are transferred. There should be, and is, a scheme describing these also. Allen (1991:14) proposed that "every contract implicitly or explicitly defines the attributes traded, the extent, timing, and form of measurement, and the residual claimants." These components of each exchange are defined as follows:

**Parties:** the parties involved in a voluntary transaction who bear the costs and gain the profits from exchange; in economic terms, the residual claimants.

**Good:** any tradable personal property, service, or other useful thing.

**Attribute:** the feature of a good that is measured in a transaction; for example, land can be used for a hunting opportunity and for many overlapping purposes as well. Land supports livestock, wildlife, and hunting experiences. Ranchers do not suspend their ranching operation during the hunting season, but, above a certain stocking of cattle, the land would become unsuitable for most hunters. Recovery of endangered species is another purpose to which land can be dedicated, and also one that does not necessarily
conflict with simultaneous uses of land. Because land carries many non-rival attributes, a particular tract conceivably could be a ranch, a hunting area, and a part of a recovery program simultaneously.

**Extent:** the degree to which the attribute is measured. A landowner sells a hunter access to game lands. Access can be defined as showing up (e.g., parking within sight of the landowner’s house, or checking in and out of the property at the landowner’s house, or etc.); or spending a measured amount of time on the property (e.g., checking in and out before 12 noon to qualify for the half-day price); or killing a certain type of animal while on the property.

**Method:** the means of measuring the attribute. This is often related to the extent, but differs in that this is what is done, not what is sought. Weighing by scale is a common method of determining value. In wildlife conservation, measuring value for a particular attribute might mean determining the presence of an animal in an area (e.g., using scent stations, calling and visual surveys, etc.). Furthermore, habitat-quality could be evaluated by measuring quantities of food, water, shelter, and space either by ground survey or by analysis of photographic images of the land surface taken from airplane or satellite. Population parameters can be estimated by harvesting, trap-and-release, and radio telemetry.

**Timing:** the order of measurement, delivery, and payment.

Combining these three ideas — levels of ownership, complexity of ownership, and elements of transactions — I created a coding scheme to describe voluntary agreements. These descriptions, and the typology can be used to (1) classify cases for later study of transaction cost, ease, conservation effectiveness, etc., and (2) prompt creativity in devising new agreements by using the typology as a heuristic device.

**Defining Attributes and Extents**

In any taxonomic exercise — that is, assigning objects to categories — there is bound to be disagreement. Attributes and extents caused me the greatest difficulty, so I will clarify these elements here. Both elements define how closely a deal reflects the interest of the traders. The attribute is the part of the good that is measured, and the extent is the degree to which the attribute is measured.

The attributes in these agreements almost never exactly match the interest of the traders. For example, Delta Waterfowl Foundation is interested in waterfowl populations, but in their contract they measure habitat. If Delta could afford to measure waterfowl populations, then they could choose an attribute that matches their interest.

The extent is the degree to which the attribute is measured. By measuring habitat, Delta checks whether or not grasses are growing. To be more specific, they could require that certain kinds of grasses grow in certain amounts on each acre.

**Economic Details of Agreement**

Most people who reached agreement in these cases traded attributes of land and wildlife species, though some dealt in water rights and even genes. The following sections elaborate on the main types of agreement and their details. Each section contains one case-table for each
agreement, depicting Ownership Categories (as per Table 3, p. 59), and Elements of Exchange (as per p. 59). The case-tables comprise a Schematic of Ownership and a Report of the Elements of Exchange.

**Schematic of Ownership**

The first part of each case-table shows which levels of ownership are transferred from whom to whom. For example, a Registry Agreement (Table 5) transfers three levels from the landowner to the conservationist (Table 4).

<table>
<thead>
<tr>
<th>LAND</th>
<th>Landowner</th>
<th>Conservationist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access/Withdrawal</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Management</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Exclusion</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Alienation</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

**Report of Elements of Exchange**

The next part of each case-table reports the elements of the exchange. The elements appear as 4 narrative descriptions, one for each level of ownership. The narrative following each ownership heading identifies in boldface (continuing with the example of a Registry Agreement (Table 6)):

1. The parties, the rights transferred, and good involved, e.g., “Landowner transfers Access and Withdrawal rights over Land to Conservationist”

2. The attribute and extent, e.g., “For the attribute of ecological and esthetic features and to the extent that the conservationist can inspect and study the ecological and esthetic features”

3. The method and timing of the exchange, e.g., “By patrol, must give notice before arriving”

Patrol is the term I use to describe the most common method of measuring exchanges. This means a regular or repeated inspection of an area. Most agreements about land management rely on patrols because, I suspect, most land management is visible and patrol is the cheapest way to ensure it is carried out. Another method of measuring is “collaboration.” By working together on a project, the parties see all along how it develops and understand why it ends up the way it does.
Registry

In form, the registry agreement matches the easement agreement (see Table 14, page 68). The difference is that registry agreements are not binding.

Registry agreements, like easements, specify features of the land that are to be protected or managed. For example, a landowner who harbors a small patch of a rare plant would agree to mow, or not mow, that patch depending on whether mowing helped it survive.

Table 5. A Registry Agreement, case of The Nature Conservancy

<table>
<thead>
<tr>
<th>LAND</th>
<th>Landowner</th>
<th>Conservationist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access/Withdrawal</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Management</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Exclusion</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Alienation</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Access and Withdrawal: Landowner transfers Access and Withdrawal rights over Land to Conservationist
For the attribute of ecological and esthetic features and to the extent that the conservationist can inspect and study the ecological and esthetic features.
By patrol, must give notice before arriving.

Management: Landowner transfers Management rights over Land to Conservationist
For the attribute of ecological and esthetic features and to the extent that the landowner follows the conservationist's instructions for managing these features.
By patrol during term of agreement.

Exclusion: Landowner transfers Exclusion rights over Land to Conservationist
For the attribute of ecological and esthetic features and to the extent that management instructions may entail restricting access.
By patrol during term of the agreement.

Alienation: Landowner holds Alienation rights over Land

Reward and Compensation

When compensating a landowner for his or her livestock killed by a predator, Defenders of Wildlife is trading in rights to a species: either gray wolves grizzly bears. The trade involves only access and withdrawal rights because Defenders has focused their intent on the chance that wolves occasionally kill livestock.

Defenders takes responsibility for livestock that are vulnerable to wolves to the extent that if a professional biologist determines that wolves killed the cow (or sheep, or whatever), they will pay the value of that animal. There is some disagreement between ranchers and Defenders over the appropriate amount to pay: ranchers want the full future value, Defenders pays current value.

Note the similarity between this compensation agreement and the purchase of a hunting license. A hunter buys rights to access game populations and withdraw a certain amount of individuals. The differences here begin with Defenders not having a legal property right to the livestock, nor a legal liability for the wolves.

When rewarding a landowner for harboring a successful den of grey wolves, Defenders engages a similar transaction. Defenders again assumes liability for wolves by paying a rental fee to landowners that harbor a successful den.
Table 6. Reward and Compensation Agreements, the case of Defenders of Wildlife. A. Compensation. B. Reward.

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>Landowner</th>
<th>Conservationist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access/Withdrawal</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Management</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Exclusion</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Alienation</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

A. COMPENSATION

Access and Withdrawal: Landowner transfers *de facto* Access and Withdrawal rights over Species to Conservationist

For the attribute of predatory habits to the extent that wolves kill livestock

*By professional judgement while cause of death is identifiable*

Management: Landowner holds *de facto* Management rights over Species

Exclusion: Landowner holds *de facto* Exclusion rights over Species

Alienation: Landowner holds *de facto* Alienation rights over Species

B. REWARD

Access and Withdrawal: Landowner transfers *de facto* Access and Withdrawal rights over Species to Conservationist

For the attribute of reproductive success and to the extent that a den succeeds, with pups surviving at 10 months of age

*By site visit after 10 months*

Management: Landowner holds *de facto* Management rights over Species

Exclusion: Landowner holds *de facto* Exclusion rights over Species

Alienation: Landowner holds *de facto* Alienation rights over Species

By requiring the den to produce pups, Defenders makes survival, or fitness the attribute of the species that is traded. Unfit wolves would lose for the landowner his or her reward payment, but the offer creates an incentive for the landowner to improve denning conditions.

Based on their knowledge of wolf life-history, Defenders declares the den successful when the pups are 10 months old.

Lease

Leases may be the most common form of agreement along with easements. Perhaps because they are common, they occur in wider variety. I present here one hunting lease and one lease for endangered species habitat.

When a hunting club leases private property (Table 7), it purchases near-complete ownership of the land. The limits on the club's ownership are in the rights they buy (all rights except alienation), and in the attributes and extents of those rights.

Access to the property, for example, is focused on the land's suitability for hunting. The hunters are there because it is as good a place to hunt as they can afford (probably) and they enter the property either to hunt or to improve the hunting quality by improving game habitat or some similar job. In the words of the lease, "LESSOR does hereby lease to and let unto LESSEE, for the rentals and term, and subject to the reservations and conditions hereinafter set forth, the exclusive

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Table 7. A Lease, the case of Crawford and Bourland Consulting Foresters

<table>
<thead>
<tr>
<th>LAND</th>
<th>Landowner</th>
<th>Conservationist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access/Withdrawal</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Management</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Exclusion</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Alienation</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Access and Withdrawal: Landowner transfers Access and Withdrawal rights over Land to Conservationist (i.e., a hunting club)

For the attribute of gamelands and to the extent that the club is doing hunting-related things while on the property and obeying all restrictions such as camping in approved places and driving only on approved roads

By patrol during the term of the agreement

Management: Landowner transfers Management rights over Land to Conservationist (i.e., a hunting club)

For the attribute of gamelands and to the extent that the club can plant food plots and install feeders where appropriate and approved by landowner

By patrol during term of agreement

Exclusion: Landowner transfers Exclusion rights over Land to Conservationist (i.e., a hunting club)

For the attribute of gamelands and to the extent that the club can post and patrol the grounds to keep out other hunters only, and must have all signs approved by landowner, and the club cannot erect fences

By patrol during the term of the agreement

Alienation: Landowner holds Alienation rights over Land

The extent of the hunters' access is specified as "the purpose of conducting hunting activities upon the Leased Premises, but does not include any other activities, including by way of illustration but not limited to, commercial recreational developments or facilities, commercial camping activities, commercial fishing rights, non-hunting and fishing related vehicular activities, grazing rights, agricultural rights, or any rights to timber upon or mineral in or under said lands."

There is similar language throughout the lease to describe the extent to which management rights are transferred for planting food plots, and how the hunting club can exclude other users from the property.

Compared to that elaborate wording, the Texas Parks and Wildlife lease (Table 8) is simple. Here, the state of Texas leases access and management rights from landowners for the purpose of improving habitat for endangered Attwater's prairie chicken (*Tympanuchus cupido attwateri*).

Table 8. A Lease, the case of Texas Parks and Wildlife

<table>
<thead>
<tr>
<th>LAND</th>
<th>Landowner</th>
<th>Conservationist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access/Withdrawal</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Management</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Exclusion</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Alienation</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Access and Withdrawal: Landowner transfers Access and Withdrawal rights over Land to State Agency

For the attribute of/n/a and to the extent that the State Agency is is on the property for a "legitimate purpose"

By patrol, with a lump sum payment when lease is signed.

Management: Landowner transfers Management rights over Land to State Agency

For the attribute of cattle capacity and to the extent that initial stocking can be 90 cows/acre and not to exceed 70 thereafter

By patrol, over the term of the agreement

Exclusion: Landowner holds Exclusion rights over Land

Alienation: Landowner holds Alienation rights over Land

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The Texans manage the use of the "grazing attribute" of the land: call the grazing attribute the capacity of cattle that can survive there. By managing this, Texas Parks and Wildlife can alter the condition of the range, which is part of the habitat value for prairie chickens.

A little closer to the point, the Delta Waterfowl Foundation lease (Table 9) is based directly on the "grass attribute" of land. Rather than contracting for the number of cows that are eating grass, Delta contracts for the presence of grass and leaves it to the landowner to decided whether to establish the grass by protecting it (i.e., not mowing it) or by planting it. Delta simply checks to be sure it is there for ducks to nest in.

The difference in the leases of Delta and Texas Parks and Wildlife is in measuring the exact feature of land needed for conservation or measuring a surrogate. Another example of contracting for a surrogate measure is the USDA Conservation Reserve Program (Table 10). In a CRP contract, the Department of Agriculture wants to pay landowners to stabilize their soil; in effect, USDA buys the stability of soil. To do this, however, they measure the "grass attribute" of land just as Delta does.

Think of this trade-off as "what-you-get vs. what-you-pay-for." A version of this trade-off faces conservationists who lease water. The objective of Oregon Water Trust (Table 11) and Environmental Defense Fund (Table 12) is to ensure the quality of fish habitat. These groups manage an irrigator's withdrawal of water from a stream based on whether the irrigator followns his or her land. Just as managers of waterfowl, prairie chickens, and soil need grass or trees to accomplish their goal, managers of fish need water. The hunting club (Table 7) in the first example of a lease solved the problem of what-you-get vs. what-you-pay-for by contracting for more ownership. They made the purpose of the contract explicit to the hunting rights, but without a way to measure the quality of hunting rights, they arranged a contract that allowed them to control more elements of the land that make or break the hunting experience.

Table 9. A Lease, the case of Delta Waterfowl Foundation

<table>
<thead>
<tr>
<th>LAND</th>
<th>Landowner</th>
<th>Conservationist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access/Withdrawal</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Management</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Exclusion</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Alienation</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Access and Withdrawal: Landowner transfers Access and Withdrawal rights over Land to Conservationist
For the attribute of n/a and to the extent that the conservationist can inspect the property
By patrol, during term of the agreement

Management: Landowner transfers Management rights over Land to Conservationist
For the attribute of capacity of land to grow vegetation and to the extent that the landowner establishes or maintains a cover crop
By site visit (2 per year); during the term of the contract; monthly payments

Exclusion: Landowner holds Exclusion rights over Land

Alienation: Landowner holds Alienation rights over Land

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Table 10. A Lease, the case of U.S. Department of Agriculture, Conservation Reserve Program

<table>
<thead>
<tr>
<th>LAND</th>
<th>Landowner</th>
<th>Conservationist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access/Withdrawal</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Management</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Exclusion</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Alienation</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Access and Withdrawal: Landowner transfers Access and Withdrawal rights over Land to Conservationist
For the attribute of n/a and to the extent that Conservationist can inspect the property
By patrol during term of the agreement

Management: Landowner transfers Management rights over Land to Conservationist
For the attribute of capacity of land to grow vegetation and to the extent that the landowner establishes or maintains a cover crop
By site visit (2 per yr) during term of agreement

Exclusion: Landowner holds Exclusion rights over Land
Alienation: Landowner holds Alienation rights over Land

Table 11. A Lease, the case of Oregon Water Trust

<table>
<thead>
<tr>
<th>WATER</th>
<th>Landowner</th>
<th>Conservationist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access/Withdrawal</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Management</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Exclusion</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Alienation</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Access and Withdrawal: Landowner transfers Withdrawal rights over water to Conservationist
For the attribute of quantity and to the extent that the landowner fallows his or her land and improves irrigation efficiency.
By patrol over a 1-2 year renewable term

Management: Landowner holds Management rights over water
Exclusion: State Agency holds Exclusion rights over water
Alienation: Landowner holds Alienation rights over water

Table 12. A Lease, the case of Environmental Defense Fund

<table>
<thead>
<tr>
<th>WATER</th>
<th>Landowner</th>
<th>Conservationist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access/Withdrawal</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Management</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Exclusion</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Alienation</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Access and Withdrawal: Landowner transfers Withdrawal rights over water to Conservationist
For the attribute of quantity (less than or equal to 16,000 acre-feet/yr) and to the extent that the landowner fallows land.
By patrol.

Management: Landowner holds Management rights over water
Exclusion: Landowner holds Exclusion rights over water
Alienation: Landowner holds Alienation rights over water
Cost-share

Cost-shares focus on projects: work with an obvious goal, beginning, and end. In the USFWS Partners for Wildlife Program (Table 13), these projects typically are stream restorations, water diversions, and fencing. A landowner and conservationist could apply this arrangement to a previous type, such as cost sharing on a hunting lease to plant food plots, but Partners Program cost-shares differ from these by focusing the contract directly on the wildlife habitat attribute of land, which, like hunting quality, is hard to measure.

A cost-share could focus on a feature of land like buildings, and be defined as a contract on the suitability of land for construction. However, the language of a Partners Program contract says, "The wildlife cooperators ((i.e., landowners and other parties)) in signing this agreement join as participants in a wildlife management program and grant to the FWS the authority to complete wildlife habitat development, or to personally carry out wildlife management activities with financial or material support, as described in the attached special provisions."

Calling the parties to the agreement "cooperators" highlights this strategy for trading an intangible value like wildlife habitat. The cost-share strategy is — more than sharing just cost — sharing the work and the evaluation of the outcome as it develops. Handling the immeasurable value this way is flexible: not only is the work evaluated continually throughout the project by all cooperators, but other elements of the exchange are negotiated specifically. The boiler-plate language to the agreement prohibits "any agricultural use of the tract such as livestock grazing or haying, unless included as part of this or an amended agreement." The special provisions of Partners Program agreements in Montana include a standard amendment that states, "Haying, grazing, and livestock watering will be permitted on the area covered by this agreement." These specific exemptions change the extent to which management rights are conveyed from the landowner to government conservationists.

<table>
<thead>
<tr>
<th>Table 13. A Cost-share, the case of U.S. Fish and Wildlife Service, Partners for Wildlife Program</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LAND</strong></td>
</tr>
<tr>
<td>Access/Withdrawal</td>
</tr>
<tr>
<td>Management</td>
</tr>
<tr>
<td>Exclusion</td>
</tr>
<tr>
<td>Alienation</td>
</tr>
</tbody>
</table>

Access and Withdrawal: Landowner transfers Access and Withdrawal rights over Land to Federal Agency

For the attribute of n/a and to the extent that Agency staff are there at "reasonable times"

By patrol, for the term of the agreement.

Management: Landowner transfers Management rights over Land to Federal Agency

For the attribute of wildlife habitat, and to the extent that a specific development is completed and agricultural use is negotiated

By collaboration

Exclusion: Landowner holds Exclusion rights over Land

Alienation: Landowner holds Alienation rights over Land

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Easement

A Partners Program agreement is used to develop a project that will enhance wildlife habitat values, but an easement is used typically to prevent a development that will impair habitat values. The Nature Conservancy and the Rocky Mountain Elk Foundation are well-known in the West for their conservation easements (Table 14).

Easements focus on the “ecological and aesthetic features and values” of land. These attributes can be defined in the easement either directly or by an activity that affects them. For example, when a rare plant is one of the features protected by an easement, it is defined by its presence or absence. When the habitat value for a wildlife species, such as elk, is of interest, it is defined by guidance on how trees and forage should be managed to maximize habitat values.

Notice the extents to which easement attributes are defined (directly or by association) resemble the way attributes were defined in other cases. Texas Parks and Wildlife defined prairie chicken habitat value to the extent that regulating cattle grazing could affect it. The Partners

<table>
<thead>
<tr>
<th>Table 14. An Easement, the case of The Nature Conservancy</th>
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<tbody>
<tr>
<td>LAND</td>
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<tr>
<td>Access/Withdrawal</td>
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<tr>
<td>Management</td>
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<tr>
<td>Exclusion</td>
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<tr>
<td>Alienation</td>
</tr>
</tbody>
</table>

Access and Withdrawal: Landowner transfers Access and Withdrawal rights over Land to Conservationist

For the attribute of n/a and to the extent that enforce rights, study
By patrol, notice required before visiting

Management: Landowner transfers Management rights over Land to Conservationist

For the attribute of ecological and esthetic features and to the extent that the conservationist can restore these features and enjoin rival uses
By patrol, during term of the agreement

Exclusion: Landowner transfers Exclusion rights over Land to Conservationist

For the attribute of n/a and to the extent that fencing
By patrol, during term of the agreement

Alienation: Landowner holds Alienation rights over Land

Program defined wildlife habitat values to the extent that they and their cooperators could fashion a project that, in their judgement, enhanced those values.

Easements, like hunting leases, involve more complete ownership rights. The conservationist earns proprietary rights over a limited interest. The reason for the similarity probably is the similarity in the conservationists’ interests. The hunters are after an intangible, subjective goal of hunting experience. The Conservancy and the Elk Foundation are after biodiversity and high habitat values for elk and other wildlife. Both of these goals are complex and, practically speaking, immeasurable. To arrange a deal to secure these interest, these conservationists, as the hunt club, arranged a deal earning them more extensive ownership.
Franchise

Franchise is another type where proprietary ownership is traded, but the arrangement is more complex. Colorado’s Ranching for Wildlife Program, for example, involves two transactions and three main parties (Table 15).

Recall the concept of the franchise in the restaurant business: the owner of a local restaurant buys the rights to a national menu and agrees to run his or her local franchise according to certain guidelines.

In Ranching for Wildlife, landowners buy allotments of hunting tags (i.e., limited property rights to wildlife) and agrees to manage his or her property according to Colorado Division of Wildlife direction. The landowner also agrees to admit a certain number of public hunters to his or her land, and then he or she sells the hunting tags to paying hunters.

Table 15. A Franchise, the case of Colorado Division of Wildlife, Ranching for Wildlife Program. A. The land-rights in Franchise; B. The species-rights in Franchise.

<table>
<thead>
<tr>
<th>A. The Land-rights in Franchise</th>
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<tbody>
<tr>
<td><strong>LAND</strong></td>
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<tr>
<td>Access/Withdrawal</td>
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<tr>
<td>Management</td>
</tr>
<tr>
<td>Exclusion</td>
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<tr>
<td>Alienation</td>
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</tbody>
</table>

Access and Withdrawal: Landowner transfers Access and Withdrawal rights over Land to State Agency
For the attribute of gamelands and to the extent that landowner has these rights during the hunting season
By sign-up

Management: Landowner transfers Management rights over Land to State Agency
For the attribute of ecological features and to the extent that the State approves the landowner’s management plan
By professional review and site visit before agreement is settled.

Exclusion: Landowner holds Exclusion rights over Land
Alienation: Landowner holds Alienation rights over Land

<table>
<thead>
<tr>
<th>B. The Species-rights in Franchise</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPECIES</strong></td>
</tr>
<tr>
<td>Access/Withdrawal</td>
</tr>
<tr>
<td>Management</td>
</tr>
<tr>
<td>Exclusion</td>
</tr>
<tr>
<td>Alienation</td>
</tr>
</tbody>
</table>

Access and Withdrawal: State Agency transfers Access and Withdrawal rights over Species to Landowner
For the attribute of game and to the extent that the landowner uses legal weapons, hunts during the season, and follows other hunting regulations.
By patrol during the season, but tags are transferred before the season

Management: State Agency holds Management rights over Species

Exclusion: State Agency transfers Exclusion rights over Species to Landowner
For the attribute of game and to the extent that the landowner determines who has access to his or her property
By patrol, during the term of the agreement

Alienation: State Agency transfers Alienation rights over Species to Landowner
For the attribute of game and to the extent that the landowner can sell tags to other people.
By patrol, tags transferred before the hunt

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One transaction is based on attributes of land: a landowner submits a management plan for approval and opens his or her land to some degree of public hunting. This gives the state conservationists proprietary rights to private land.

The other transaction involves game wildlife as the traded good (Table 15). Here, landowners receive near-complete ownership of the wildlife, earning rights to hunt and kill, decide who else can hunt and kill, and choose to transfer these rights to other people. The landowner's ownership of wildlife is limited in kind and extent. He or she has all levels of ownership except management; that is, the landowner cannot add individuals to the population or do anything else to the population beyond hunting it. Their ownership is limited also by extent: the hunting tags they buy that give them these rights are good only for the present hunting season.

Private Management

Deseret Land and Livestock and the Peregrine Fund (Table 16) are two examples of agreements between private landowners and conservation agencies by which the landowner is given the right to manage wildlife.

In the first case, Deseret harbored Bear River Bonneville Cutthroat trout on its property and was approached by the Utah Division of Wildlife with the following offer. If Deseret would restore streams and develop ponds such that the trout would have adequate habitat, and would

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>Landowner</th>
<th>Conservationist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access Withdrawal</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Management</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Exclusion</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Alienation</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

### A. Deseret Land and Livestock

**Access and Withdrawal:** State Agency transfers Access and Withdrawal rights over Species to Landowner

For the attribute of n/a game and to the extent that landowner can allow catch-and-release fishing for the species

By patrol, during the term of the agreement

**Management:** Landowner transfers Management rights over Land to State Agency

For the attribute of fish habitat and to the extent that landowner restores habitat to satisfaction of agency

By project before trade of other rights

**Exclusion:** Landowner holds Exclusion rights over Species

**Alienation:** State Agency holds Alienation rights over Species

### B. Peregrine Fund

**Access and Withdrawal:** Federal Agency transfers Access and Withdrawal rights over Species to Conservationist

For the attribute of n/a and to the extent that the conservationist may hold species in captivity to rear and then release individuals

By patrol over the term of the agreement

**Management:** Federal Agency transfers Management rights over Species to Conservationist

For the attribute of survivability and to the extent that the conservationists can reintroduce individuals to depleted or extirpated populations.

By collaboration on specific projects.

**Exclusion:** Federal Agency holds Exclusion rights over Species

**Alienation:** Federal Agency holds Alienation rights over Species

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allow Utah to draw fish from these ponds to use as a stocking source, then Utah would permit Deseret to run a commercial catch-and-release fishing business with these rare trout.

By accepting this arrangement, Deseret received access rights to trout to the extent that their customers could catch and release them. Deseret gave up some rights to manage its land by following the state's instructions to improve fish habitat. Utah retained rights to manage the fish by removing or introducing individuals. Note that Deseret has and retains exclusion rights to the fish by default because they own the land where the fish is found.

In the second case, the Peregrine Fund is permitted by the federal government to access endangered birds of prey to the extent that the Fund can hold them captive to rear and release them back to the wild. The Fund has the right to manage the wildlife in that they feed, house, and otherwise care for internal functions of the animal population. The rights of access and exclusion held by the Fund are defined by the necessity of allowing it to manage the birds.

Exemption

Experimental Populations and No-take Agreements (Table 17) are examples of how the federal government has reached voluntary agreements with private people and landowners within the regulations on endangered species management. I recognize that this is not exactly a voluntary arrangement given the regulatory nature of the Endangered Species Act, but I include it as an example of a useful concept.

When the red wolf (Canis rufus) was proposed for reintroduction in North Carolina, the Fish and Wildlife Service used a provision of the law to write special regulations that would apply only to the red wolves they released into the wild. These rules allowed trappers and hunters to kill an endangered red wolf by accident. In effect, they transferred access and withdrawal rights to red wolves to the extent that the withdrawal was accidental and that the hunter or trapper reported the accident within 24 hours.

A more complex version of the same idea is the No-Take Agreement, which is transferred through a memorandum (Table 18). Here as with an Experimental population, the landowner receives the right of access and withdrawal of the endangered species. They receive this right in exchange for the management rights they transfer to the government in the form of an approved management plan the landowner agrees to follow.

Table 17. An Exemption, the case of the U.S. Fish and Wildlife Service, Red Wolf Recovery Program

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>Landowner</th>
<th>Conservationist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access/Withdrawal</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Management</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Exclusion</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Alienation</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Access and Withdrawal: Federal Agency transfers Access and Withdrawal rights over Species to trappers

For the attribute of vulnerability to traps and to the extent that a trapper accidentally captures a red wolf

By professional determination within 24 hours of the accidental capture

Management: Federal Agency holds Management rights over Species

Exclusion: Federal Agency holds Exclusion rights over Species

Alienation: Federal Agency holds Alienation rights over Species
Table 18. An Exemption, the case of the U.S. Fish and Wildlife Service Memoranda: A. Land-rights from Landowner to Federal Agency; B. De facto Species-rights from Landowner to Federal Agency; C. Species-rights from Federal Agency to Landowner

A. Land-rights from Landowner to Federal Agency

<table>
<thead>
<tr>
<th>LAND</th>
<th>Landowner</th>
<th>Conservation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access/Withdrawal</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Management</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Exclusion</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Alienation</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Access and Withdrawal: Landowner transfers Access and Withdrawal rights over Land to Federal Agency
For the attribute of n/a and to the extent that agency people enter the property to handle, monitor, install equipment, exercise management rights, and other pertinent activity
By patrol during term of agreement

Management: Landowner transfers Management rights over Land to Federal Agency
For the attribute of capacity to support a chosen wildlife population(s) and to the extent that the landowner follows an approved management plan
By cooperation and patrol, with a review after five years to update the management plan with new law and science.

Exclusion: Landowner holds Exclusion rights over Land
Alienation: Landowner holds Alienation rights over Land

B. De facto Species-rights from Landowner to Federal Agency

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>Landowner</th>
<th>Conservation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access/Withdrawal</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Management</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Exclusion</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Alienation</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Access and Withdrawal: Landowner transfers Access and Withdrawal rights over Species to Federal Agency
For the attribute of n/a and to the extent that the landowner grants the agency access to his or her land when in the company of the Landowner or his or her employee
By patrol, during term of the agreement

Management: Landowner holds whatever de facto Management rights over Species he or she has
Exclusion: Landowner holds whatever de facto Exclusion rights over Species he or she has
Alienation: Landowner holds whatever de facto Alienation rights over Species he or she has

C. Species-rights from Federal Agency to Landowner

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>Landowner</th>
<th>Conservation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access/Withdrawal</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Management</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Exclusion</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Alienation</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Access and Withdrawal: Federal Agency transfers Access and Withdrawal rights over Species to Landowner
For the attribute of vulnerability to land management to the extent that management modifies habitat or disrupts behavior of individuals of the species
By patrol during term of agreement

Management: Federal Agency holds Management rights over Species
Exclusion: Federal Agency holds Exclusion rights over Species
Alienation: Federal Agency holds Alienation rights over Species
The No-take Agreement highlights a difficulty that has shown up in court: is there a difference between management rights to land and access/withdrawal rights to wildlife? Managing land affects the habitat value of that land for wildlife, so certain management could destroy the habitat value and, in effect, kill the wildlife. The No-take Agreement separates these rights by an agreement on safe management. If the landowner manages safely, then the only infringement on rights to the species are agreed to be accidental.

**Working Together and Voluntary Compliance: the miscellany**

These two types of agreement represent the fringes of my typology. There were a number of cases that I could not place in the preceding types, so I review them here (Table 19).

In several cases, voluntary agreements of various types (as described above) were arranged within the efforts of a larger group. Parties outside the agreement were aware of the agreement and were indirectly responsible for it because they shared membership with the parties in a larger group. For example, many cost-share agreements under the Fish and Wildlife Service Partners for Wildlife Program were arranged in the Blackfoot Valley of Montana where all such activities are coordinated by an umbrella group of citizens and private and government conservationists called the Blackfoot Challenge. It may be that the environment created by the Blackfoot Challenge made the cost-share agreements easier.

<table>
<thead>
<tr>
<th>Table 19. Working Together: the miscellany. A. the case of the Black Bear Conservation Committee; B. The Blackfoot Challenge; C. Project SHARE</th>
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</thead>
<tbody>
<tr>
<td><strong>A. Black Bear Conservation Committee</strong></td>
</tr>
<tr>
<td><strong>Access and Withdrawal:</strong> Federal Agency holds Access and Withdrawal rights over Species</td>
</tr>
<tr>
<td><strong>Management:</strong> Federal Agency transfers Management rights over Species to group For the <em>attribute of persistence</em> and to the <em>extent that</em> the agency institutes the group's plan By professional review and publication after the group develops the plan</td>
</tr>
<tr>
<td><strong>Exclusion:</strong> Federal Agency holds Exclusion rights over Species</td>
</tr>
<tr>
<td><strong>Alienation:</strong> Federal Agency holds Alienation rights over Species</td>
</tr>
</tbody>
</table>

**B. Blackfoot Challenge**

**C. Project SHARE (Salmon Habitat and River Enhancement)**

| Access and Withdrawal: State Agency transfers Access and Withdrawal rights over Species to Landowner For the *attribute of reproductive success* and to the *extent that* landowner produces fish for stocking By collaboration, inspection |
| Management: State Agency transfers Management rights over Species to Landowner For the *attribute of reproduction* and to the *extent that* captive fish released By collaboration, inspection |
| Exclusion: State Agency holds Exclusion rights over Species |
| Alienation: State Agency holds Alienation rights over Species |

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In other cases, such as the State of Montana Forestry Best Management Practices Program (BMP), a group collaborates on rules for land management with which members voluntarily comply. This is an interesting twist on the management-right scenarios for common-pool resources described by Schlager and Ostrom (1993), but I do not know where it fits in my typology. The BMP group is deciding on rules that will protect some of the public-good values of land, which is similar to what the managers, proprietors, and owners do with a common-pool resource. Unlike these governors of common-pool resources, however, the BMP group cannot require private landowners to adopt the group's rules. This is done through law, but that is not a voluntary agreement.

**Conclusion**

These agreements are reached within the rules of Governmental Conservation, or outside the rules as in the case of non-legally binding agreements. To experiment further with these agreements will require the rules of Governmental Conservation to change, at least by granting experimental authority to local conservationists and landowners. This policy implication is similar to the one identified by Schlager and Ostrom (1992), who described the need to determine the local arrangements of coaster fishermen before prescribing policy for managing coastal fisheries. In that case, the local arrangements preceded the policy. In the case of endangered species management, the policy preceded the local arrangements. Success in managing endangered species by local arrangements, then, depends in part on the our ability to foster these arrangements under an existing set of policies.
Chapter Five

Conservation Redefined: Negotiating Interests, Reducing Waste, and Sustaining Desirable Conditions

Dan Pletscher (Director of the Wildlife Biology Program at the University of Montana) and I were driving to Helena, MT, to a discussion about changing the Endangered Species Act. On the drive, Dan asked me to define conservation. I paraphrased a dictionary definition, "to protect natural resources from unnecessary loss or waste." Dan complained that I left out the idea of sustainability. Looking back, I see I left out negotiation also. Not only do my case studies show negotiation as a big part of conservation, but Dan and I that day were going to a negotiation of sorts convened by two state legislators who were developing recommendations for changing the Endangered Species Act. In this final chapter I produce not only a more thoughtful definition for Dan, but also propose a theory of how conservation works.

Conservation Redefined

The cases in my study showed me that conservation begins with people having an interest in resources. History shows that when resources fail to satisfy our interests, we try to correct the condition of resources. First this was done mainly by brute force among market hunters, landowners, game dealers, and governments. After state and federal laws settled
conservation into a fairly peaceful nation-wide effort of government agencies, the varying interests in resources grew in number and kind. Now government is hard pressed to resolve the differences. Voluntary agreements are local examples of individual conservationists and landowners to resolve these differences. When these negotiators agree, they act together to protect resources from waste and sustain them. Either on private land or at state, regional, and federal levels, conservationists reach agreements and act on them. Local conservation usually results in projects, larger-scale conservation usually leads to policies and administration of public resources. At any level, interests are negotiated and action taken.

Pulling it all together: conservation is any act that negotiates interests in resources to reduce waste and sustain desirable conditions.

Types of Negotiations

Negotiations of interest in resources take 4 forms (Fig. 4). One is the debate of public interests in the public domain. This is where state and federal policies are made for air, water, and public lands. Another is the debate of public interests on private lands. This is where regulations are debated for private lands and also where landowners and conservationists reach voluntary agreements. Third is the negotiation of private interests in public land. Local collaboration (e.g., Project SHARE) and citizen management (e.g., Grizzly Reintroduction (USDI 1997)) are examples of how this negotiation is becoming formalized.

Common to all three negotiations is the trade-off between national and local interests. Stout (1996) described three ways that agencies negotiate their national or regional responsibilities with local people. First, agencies respond to the "squeaky wheels," i.e., those people who call in or visit the agency. Second, agencies systematically describe interests of local people with surveys or similar methods. Third, agencies convene task forces. Voluntary agreements and citizen management are additional tools. When an agency reaches agreement with a landowner, that agreement is intended to carry out the agency mandate just as an agency decision. Likewise, when an agency shares its management authority with local people, the decision of the group serves the role of the agency decision.

Having looked in detail at agreements of groups (e.g., the Bull Trout Restoration Team and Project SHARE) and of one-on-one agreement (the interviews behind Chapter 4), and having seen the pyramid as a useful representation of both, I propose that a pyramid also represents the whole practice of conservation.
Four Negotiations

Typical Venues:

- Public

- Public to Private

- Private to Public

- Private to Private

- state and federal legislatures, agencies (e.g., National Environmental Policy Act planning), commissions

- state and federal legislatures, agencies, commissions, AND kitchens, local bars and public buildings, private property

- state and federal legislatures, agencies, commissions, AND agency offices, local libraries, meeting rooms

- kitchens, local bars and public buildings, private property, (e.g., permit trading, leases)

Fig. 4. Forms of negotiation of interests in resources.
The Conservation Pyramid

One of the problems with conservation, is a shortage of local arrangements for carrying it out. Remember Leopold's (1942:295) complaint that conservation focuses on "bureaus, policies, laws, and programs" rather than "resources, products, and land-users"? (see pg. 31) Mangun and Mangun (1991) argued that because local government has claimed no obvious role in wildlife conservation, the state and federal bodies dominate. If conservation were described as a pyramid, it would be precarious, lacking a base. Perhaps the new model of conservation is such a pyramid with a strong base of voluntary agreements with landowners and state task forces.

Pyramids that describe agreement and collaboration (Fig. 3) build a larger pyramid that represents conservation (Fig. 5). Just as a biotic pyramid describes functions of the resources (Fig. 3), a conservation pyramid describes how people arrange conservation. When any level of a pyramid is weak or missing, the overall pyramid — either resources or conservation — is unhealthy. Following this model, when we see defects in the resources pyramid, we could look to the conservation pyramid to plan a solution.

In the future, conservation may work as follows. Local conservation is built by a pyramid-like succession of daily life starting with grapevines and relationships and finishing with agreements that local people put on the ground (Fig. 5). Regulations would remain a part of local conservation. Based on the best agreements and accomplishments of local people, state and regional people (e.g., Project SHARE, Blackfoot Challenge, the Bull Trout Restoration Team) would coordinate efforts and reach agreement for practices to cover large areas of public and private land. Capping the effort would be national policies. These policies would be grounded in the negotiations that lead to reduced waste and sustained conditions in smaller places.

Making It Happen

For conservationists and landowners (or other people) who want to see if the conservation pyramid can be built, I recommend the following to cultivate the base of local conservation.

Recognize the Need to Negotiate

It is very difficult to argue that conservation morally trumps uses of resources that appear to imperil the resources, and it is also hard to define peril. People appeal to great philosophers, to God, and to utilitarian arguments that we should not foul our own nest, but

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National Agreements or National Policies

Group Agreements leading to State Policies

One-on-one Agreements

Fig. 5. A conservation pyramid.
people have many countering moral appeals of their own. There are few practical rejoinders to a landowning family that wants to violate someone's concept of conservation to earn a short-term profit to send children to school or pay for medical treatment. Even conservationists disagree on what is right, usually over risks in managing wildlife. For example, conservationists working to save the California condor disagreed about the decision to begin a captive breeding program. In Florida, biologists disagreed on whether to introduce cougars from Texas to supplement the Florida panther population.

I suggest that conservationists and landowners develop an honest curiosity and concern for each other's interests. Both are concerned with what the land can produce, even if the landowner has only a small tract with a nice view. The history of land-use in an area, and the cultural importance of local resources products would be a good starting place for the conservationist. The landowner could seek out state or private conservationists to see what they are tracking on their natural heritage databases.

The most valuable skill in recognizing the need to negotiate may be listening, but there are a few things to look for. Active listening (Rogers 1951) is a skill, and can be learned. Members told me that much of what they hear in the Talking/Listening stage is venting, so the prospects for agreement may seem dim at first. More specifically, learn what landowners' schedules are, and do not drop in on them at inconvenient hours. Learn each other's business objectives and how business is going. Do not work on your own clock alone.

**Become Part of Your Community**

This is not advice only for conservationists, though they may have a harder time taking it. Conservation agencies move some employees frequently, and employees sometimes cannot or will not put down roots in any of their periodic communities. Employers may need to change some aspects of their employee's jobs to overcome this problem. Landowners also need to consider this. Several members of a Montana community in my study described a neighboring community as "apathetic" because there was less "community spirit" and therefore was a hard place to spread agreements.

Becoming part of a community takes time, and trust and credibility are earned. Finding and meeting the official and unofficial community leaders appears to be an essential first step. Members also said that chance encounters in grocery stores and helping neighbors with flat tires, loose cows, and other small random projects all help build a person's presence in a community. It may help conservationists to focus their time in areas small enough to allow them to spend time
with people. None of the members with whom I spoke had experience building a grapevine in apathetic communities.

**Develop Offers**

Chapter 3 provides examples and hopefully will spark innovations. It seems inevitable that offers will rely on surrogate attributes and general measures, but improvements in technology might open new opportunities. Consider starting with a "free sample" offer. This is any easy agreement that gives people experience working together to meet a conservation objective, however small it may be. Nest-boxes have been used as "free samples."

Before offering, be sure to know the details of the offer. Field conservationists should have as much decision-making authority as possible, to allow tailoring of deals without paperwork and referrals.

Be ready to refer landowners to other conservationists or other landowners if necessary. When referring people, arrange the meeting yourself and go along with the person you referred.

**Learn to Reach Agreement to Conserve Wildlife on Private Land**

My version of an agreement pyramid is only a good start: local conservationists and landowners should use it experimentally until they learn (or make) the rules for reaching agreement in their own area. Talking and listening likely is the key. There is a lot of talking in agreements to conserve endangered species and it takes a lot of time. All of us can reach agreement with a grocer on a sack of groceries with barely a word, and even tough negotiations (like labor union agreements) seem to fit some schedule. Agreement seems to defy scheduling, which may mean that people getting involved in this type of conservation need a flexible concept of how fast or slow things get done. Again, the concept of a pyramid, as an analogy to the biotic pyramid, is that you move up when the base is sufficient. As good soil will not produce as much during a drought, so good talk may not move as quickly to agreement if relationships are strained by circumstances.

After closing a deal, keep in touch and remain available in the community for people who will see what you have done and call on you to do it with them.

**Feed Ideas to Policy Makers**

State government and the state echelons of federal agencies probably will need to change programs, job descriptions, personnel, and even policy and law as local conservation evolves.
further. Local conservationists and landowners will have necessary suggestions for these changes. Therefore, local people and area managers should have a way to share ideas.

The Conservation Map

Conservation comprises both social phenomena (like negotiation) and ecological phenomena (like how land responds to projects meant to reduce waste and sustain chosen conditions). It follows, therefore, that both social and ecological information are helpful to conservationists. Because conservationists often use maps, those maps could be improved by including the social information described by the pyramid model of agreement.

Agreement pyramids can be mapped to show the state of agreements across a region. In Montana, moderate- to well-developed pyramids can be drawn over the Blackfoot Valley, the Big Hole Valley, and the Flathead Valley at least. Conservationists and landowners in my study often were able to describe not only how far along toward agreements they were in their place, but also how far along others were in other communities.

Mapping agreement pyramids to correspond with the amount or likelihood of agreement would a useful element to such mapping tools as Gap Analysis (Scott et al. 1991). The basic idea behind Gap Analysis is to compare land protection schemes with the location of chosen parts or conditions of land under threat. Where threatened land is unprotected, conservationists can focus their effort. The codes on the map describing land protection are social codes, and they usually describe jurisdictions of agencies or ownerships with conservation easements. By adding agreement pyramids to maps, a Gap Analysis can show where local conservation efforts are strong and where they need cultivation.

The Last Word

My study opens two doors to better understanding of conservation: (1) the relationships between conservationists and landowners; and, (2) the use of qualitative data.

Among the questions to be explored about relationships are: What measurable factors, if any, predict the likelihood of agreement? What are the prices and transaction costs in voluntary agreements? What is our current inventory of locally-based conservation?

Qualitative research methods enable us to begin answering these questions before we have techniques to measure relationships numerically. The scientific approach to these questions begins as we collect stories people tell about their experiences. Stories are key facts of evidence and can be handled as systematically as the study skins collected by early biologists.
Perhaps gaining the ability to study relationships will change our thinking about what conservation means. Instead of thinking conservation is harmony between people and the resources, as Leopold (1949) described it, perhaps we will see it also as harmony among people.

This not to say, of course, that Leopold’s grasp of conservation was in any way dim. Indeed, no conservationist seems to have thought of anything that had not already occurred to Aldo Leopold. He once wrote, "there are two things that interest me: the relation of people to each other, and the relation of people to land" (Meine 1988:51).
LITERATURE CITED


84


Leopold, A. 1933. *Game Management*. The University of Wisconsin Press, Madison, WI.


